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# FLORIDA HEALTH NOTES

## OFFICIAL BULLETIN

OF

State Board *of* Health *of* Florida

PUBLISHED MONTHLY AT JACKSONVILLE, FLORIDA

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VOLUME I

(New Series)

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JULY, 1906 - JUNE, 1907

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TOGETHER WITH A

“Symposium on Yellow Fever Management”

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— BY —

JOSEPH Y. PORTER, *State Health Officer.*

HIRAM BYRD, *First Assistant to State Health Officer.*

CHAS. E. BANKS, *U. S. P. H. and M. H. S.*

EDUARDO ANDRADE, *late Bacteriologist State Board of Health.*

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PUBLISHED MONTHLY AT JACKSONVILLE, FLORIDA, BY  
STATE BOARD OF HEALTH

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Vol. 1.

JULY, 1906

No. 1

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REVIVED.

After several years of dozing the HEALTH NOTES awakes to a greater activity and interest in State Health matters. The slumber has been due to no lack of concern of the State Health Authorities in the sanitary welfare of the State but altogether to a want of time and clerical force by which a monthly publication of this nature could be edited and published with credit to the State and benefit to the people. The NOTES has had dreams of great magnitude during this dozing period, of amplyfying usefulness, and an upbuilding of reputation for health such as no other State in the Union could expect or realize. Like a famous creature of the drama the HEALTH NOTES returns to an active living state to find many of its friends gone—gone into Eternity. It will miss their kindly words of encouraging commendation and every ready assistance, but it rejoices to find a people more confiding, more trustful, and more

enthusiastic in the work of the State Board of Health, and likewise grateful for the protection from disease both at home and from abroad, which the Board has for seventeen years afforded and given.

The HEALTH NOTES each month will endeavor to present to the people of Florida a summary of important events in sanitary matters which may occur in the State, together with such vital statistics and morbidity statistics as have been reported to the office at Jacksonville. The NOTES will always urge advanced ideas on sanitary subjects and recommend to the people of the State such measures towards improvement of their health in lessening sickness and decreasing mortality as the best scientific methods teach.

The State Board of Health asks that the people of Florida will give their moral support to the publication by not only reading and reflecting on what may be written but by handing to neighbors with approving suggestions on advice tendered.

#### NOTIFY THE STATE BOARD OF HEALTH

When there is an eruptive disease in the community—it may be smallpox.

When you suspect diphtheria—the Board will make a diagnosis and pay for antitoxin used with the indigent.

When typhoid fever prevails;—the Board will make a diagnosis and determine if possible the source of the invasion.

When malaria prevails;—the Board will examine the blood for the malarial parasite, and tell you how to stay so when you get well.

When any communicable disease is present, as measles, scarlet fever, whooping-cough, chicken-pox, mumps, etc.;—well directed management may avert an epidemic.

When the management of tuberculosis is in question;—the Board will give best advice of the time.

When yellow fever, cholera, bubonic plague, or smallpox exists;—the Board assumes management and control.

When horses or mules are suspected of having glanders;—the Board will send the veterinarian who will investigate and tell you what to do.

When hogs are dying;—the veterinarian will help you to arrest the disease.

When hydrophobia occurs in dogs or other animals;—the Board will corral the diseased animals and arrest its spread.

When any one is bitten by a supposedly mad dog;—the Board will examine the head of the dog and tell you whether or not the dog is mad.

When water is suspected of being contaminated;—the Board will examine and find out.

When problems of sewage disposal arises—the Board will help to solve them so as not to endanger the health of anyone.

When mosquitoes trouble you at your home;—the Board will tell you how to get rid of them.

When your neighbors' mosquitoes trouble you;—the Board will insist on your neighbor getting rid of mosquito-breeding places.

When any sanitary nuisance exists in a community;—the Board will cause the same to be abated.

When any question pertaining to public health is raised;—the Board will give proper guidance.

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“While the State Board of Health is anxious to distribute vaccine virus throughout the State and have the citizens of Florida thus protected by vaccination, against smallpox, yet it must be appreciated that this protective agent, this serum, costs money and should not be wasted either by indifference, neglect to exchange old virus for new, or wanton waste by asking for more points than are absolutely needed or required. Again, the Board feels that it should have a record of the persons that are vaccinated at the public's expense and in the future it will be demanded from the physicians to whom vaccine virus is supplied gratuitously. Physicians have always been considered to be on their honor in regard to this, not to use any free serum of the State for pay patients. If patients pay for vaccination, the patients should certainly pay for the virus just as much as the physician or patient would pay for medicines or other remedial agents. Please do not misunderstand the motive of the Board in this matter. Vaccine virus and serum of any kind is at the service and demand of every indigent person in the State and vaccine virus will be given to anyone who will use it but in return the State exacts that the name of the person on whom used, shall be furnished to the office of the State Board of Health.”—Joseph Y. Porter, State Health Officer.

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#### WHAT EVERYONE SHOULD KNOW ABOUT MOSQUITOES.

That there are over twenty-five different kinds in Florida.

That one kind, the Anopheles, transmits malaria.

That another kind, the Stegomyia fasciata transmits yellow fever.

That malaria and yellow fever are transmitted in no other way.

That if we had no mosquitoes we would have neither malaria nor yellow fever.

That we would have no mosquitoes if we did not keep places for them to breed.

That they breed only in water, mostly about our premises, in rain barrels, cisterns, tanks, tubs, flower pots, sagging gutters, water pitchers, etc.

That it takes them at least ten days to pass through the different stages from the egg to the mosquito, hence they cannot breed in vessels that are emptied every ten days or oftener.

That in the presence of malaria and yellow fever everybody should sleep under mosquito bars and protect themselves as far as possible from mosquito bites.

That it will cost you nothing to know more about mosquitoes.

That if you desire further information, apply to The State Board of Health, Jacksonville, Fla.

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#### FLIES AS CARRIERS OF DISEASE.

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BY J. O. COBB, M.D.,

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*Surgeon United States Public Health and Marine Hospital Service,  
Los Angeles, California.*

(Read before the California Public Health Association, at Riverside, California, April 17, 1905.)

Seemingly the most puzzling problem may, after all, be the simplest; the most subtle disease the easiest controlled, after once we lay bare its causative agent. We actually turn up our noses at yellow fever now, for all the interest is gone. Puh! the mosquito; why, how simple! And typhoid fever? why, we know all about that! And plague, and malaria, and dengue? Insects—flies, mosquitoes, fleas! We know all about that you will say; but, even though you know, and how many physicians in your acquaintance, make yourselves active in the suppression of diseases conveyed by insects? As I look into your faces, I doubt if there is a single man among you free from one guilt, free from running an open incubator for the propagation of disease-carrying flies. I refer to your stables, where the manure is thrown out in a pile and left to answer nature's means of hatching out the fly. And, being guilty of this public nuisance

yourselves, I am certain that not one of you has ever written a warning word or raised a protesting voice against this affront to common decency.

I shall not weary you with a description of the genealogy of the fly or of his anatomy, or his nearly-human instincts of liking company. You know all about him—how he follows you to the table occasionally, in spite of the most careful housekeeper, tasting your coffee, taking a bath in the cream, playing Bre'r Rabbit and Tar Baby in the syrup. He's a very domestic, playful creature, the fly, but he's not clean; he is dirty, this insect is. Yes, he is that and more, for if I call him by the right name I would say he was nasty. Born on a dunghill, his nature reverts to the filthy as soon as your back is turned. Even though you allow him the grace of your company, he imposes upon your confidence, when you are not looking he wallows in waste barrels, paddles in dirty water, wades knee deep in the offal of cattle, feeds upon all kinds of conceivable filth. And if he is sojourning in the country and the sanitary arrangements are imperfect, as they too often are, he whets appetite for the dinner which he will try to take in company with you by a formal visit to the privy. Oh, he is a gourmand, this fiend, the fly! He will tackle anything to eat or drink from typhoid soup a la Chicago to sputum jelly a la t. b.

This pestiferous insect has many chances to communicate disease from one person to another or to plant the infectious saprophytes upon food. In cholera epidemics, it has been demonstrated that flies became the medium of infection by planting the vibrio upon food, both by contact from their feet and wings and from their dejecta, which are loaded with bacteria. Wherever large bodies of men go into camp typhoid fever is nearly certain to break out, even though the water supply is carefully protected from contamination. Such outbreaks are due to fly infection of the food supply. Sporadic cases of typhoid fever in country settlements are more often the result of fly infection than of water infection.

Tuberculosis is of the most puzzling of our contagious diseases, and the matter of its spread from one person to another is one of the hardest problems before the sanitarian to-day. You believe, and I believe, that it is a respiratory disease, borne into our lungs by means of contaminated dust, but I believe probably more than you do. I believe that the greater sources of infection by the bacillus comes about by means of the fly planting sputum on food from its wings and feet and dejecta. This is not something new; it is an old theory. Spillman and Househalter called attention to the possibility of infection in tuberculosis in this manner several years ago. Hoff-

man fed flies with sputum and recovered bacilli from their fecal matter. Heyward has recently reported a series of experiments covering the ground more fully than Hoffman.

Typhoid fever, cholera and tuberculosis are the most prominent of the infections conveyed by the fly, but I believe that several diseases, and especially plague and leprosy, may be conveyed in the same manner. Diphtheria is one of these, but there is not so much of a chance for the fly to pick up the infected mucus in this malady; but in plague epidemics and in leper countries it seems but reasonable to believe that, in the poverty and squalor where such cases occur, the fly would pick up the infection and plant it on the food of others who live in this environment. Of course, as I speak to you, your minds have naturally asked if these diseases are ingestion diseases, and I answer you that I believe they are. Kitasato has demonstrated that plague develops from feeding experiments, and there are many strong reasons for the existing belief that leprosy is an ingestion disease: Personally, I believe that plague is spread commonly by means of body parasites, though there is little doubt that many cases originate from infection by the way of the intestinal tract; but with leprosy, I am firmly convinced that the disease is caused from eating infected food, and, if this is true, then this contagion is most likely planted upon such food by flies that obtain the infection from open sores and the nasal and bronchial mucus of old cases, which is said to teem with bacilli.

Now, let me picture to you some of the habits of the fly, and then we shall see if it is unreasonable to believe that he is an important factor in the spread of disease. Turn about you and see the swarms of flies upon decaying vegetable matter—in the garbage cans, on the manure piles, everywhere. Watch the flies swarming upon the filth of the streets, such as sputum and spit, and bones and decaying vegetables. Follow him further, and see him alighting upon the candy offered for sale by the street venders, and on all the fruit at the stands, especially the grapes and dates. Don't tarry too long here, for you will be disgusted, and will cease to eat fruit flavored with fly specks; keep right on in the quest after this insect's habits, and notice the bakery where you buy your bread and cakes and pies—flies there to put on the finishing layer. And the meats, have you observed how they are carried in open wagons through the streets without protection, covered with flies, and then hung up in the shop where these same flies and others swarm upon them? Cooking this meat does not change the fact that this is simply nasty. There is no other word for it.

Then, after you have been in the butcher shops, keep right on to

the restaurant kitchens, and alleys back of them, especially the cheap ones. I don't say you ever ate there, but if you ever have, you won't go there again if you will but make one visit to these kitchens. But there are others who must, perchance, eat there, and it is these whom we should protect, not alone from these filthy insects, but from the disease which they carry.

And we must go into the shops and homes of the poor—those unfortunates whose houses are not protected by screens to keep out flies. There you will be disgusted! Flies everywhere! In the children's mouth and noses; in the house, out of the house; on the food left there upon the table, which is never cleared; on the food left over, and which the children eat at all times between meals; in the milk pitcher; in the soup; in the molasses; in and upon every conceivable thing! But at this point I feel that you are beginning to doubt. You are saying to yourselves that it is true that the fly is filthy, but, you are even now saying that the food is cooked, and that the process will kill any bacteria that might have been planted by flies. Ah, but you forget and overlook the danger. It is granted that cooking will destroy all of these bacteria readily, but it is not here that the danger lies. It is the food which has been cooked and upon which the fly afterward alights that is the real danger, and the longer this food remains uneaten after this contamination the greater the probability that a colony has grown, thereby increasing the dosage of infection. For you must see that in cholera, say, where the fly planted but a few bacilli on potatoes or a bread pudding, or something left over from a meal, a rapid growth would follow in a few hours' time, increasing thereby the number of bacteria enormously.

This is no idle picture of the dangers from fly infection. I have spent considerable time in watching flies, and we know that their dejecta alone contains millions of bacteria. I have furthermore paid particular attention to their habits in homes of the poor, for here is where there is the greatest danger. The poor, nearly universally leave their tables set with cold food left from the previous meals. Flies assemble in great numbers upon this food, and from time to time the children run in and help themselves, the remainder of the food being served at the next meal. Now, let us suppose that there is an open privy on the premises or near by,—but there is no need for me to paint the picture further. You know where that fly has been. If there are cases of typhoid fever about, all the more probability that the fly will carry the infection to others. In the Philippines it was hard to check cholera because the flies contaminated the foods and sweet stuffs sold by the venders. And if typhoid

fever and cholera, why not tuberculosis and leprosy? Just spend some of your time watching flies after sputum and spittle in your streets. Now, if there is a consumptive near who is careless, as most of them are, is it unreasonable to believe that flies take this sputum and deposit it on grapes and dates and candies which you and your family eat? or that, in the homes of the poor, they would not pick up the sputum of a case, either in the house or from a nearby one, and deposit the bacilli on the left-over food?

There is no need for me to go on indefinitely enumerating things which you know to be possible and probable—yes, actual—but about which you are more or less indifferent. All that I suggest in this paper, being hygienists and sanitarians, is that you set the example to the laity—that is, if you believe in these dangers as I do. For how else shall we be able to enforce our advanced knowledge upon the attention of the public?

Let me suggest that you begin the warfare against the fly by talking against him to his natural born enemy, the housekeeper. She is not slow in accepting new ideas when they concern the betterment of humanity and the prevention of disease. Here her heart beats true and understandingly. Therefore, let me urge you to talk flies (and other insects, too, for that matter) to your lady friends.

And why not try and get started a movement to compel livery stables and dairies to properly care for the manure?

Also, urge upon every one the screening of houses, and especially of food, and when you buy food patronize those stores that try to be clean.

And, as a sample of what a hot fight you can get into, make an effort to compel some of the filthy sellers of candy, fruits, breads and pastries to protect their articles from fly contamination.

As sanitarians, lend the helping hand to the ladies in their efforts to make the city officials enforce the garbage contracts. Last of all, as the saying goes, let each of you doctors who keep horses sweep before your own doorstep.

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#### THE FLY AND THE TUBERCLE BACILLUS.

"The recent stress which has been laid on alimentary infection in tuberculosis should lead to a more careful consideration of the means by which tubercle bacilli may reach the alimentary canal. The recent studies of Lord show that the ubiquitous fly may play an important part in alimentary transmission. The bacilli not only pass the alimentary canal of the fly unchanged, but undergo a mark-

ed proliferation there. Fly specks may contain as many as 5,000 bacilli, and, according to Lord's computations, thirty infected flies may deposit within three days from 6,000,000 to 10,000,000 tubercle bacilli. The danger does not seem to be from the liberation of bacilli in the air, but from the deposition of the fly specks on food. That this can and does occur under certain circumstances was abundantly demonstrated by our experience with typhoid fever during the Spanish-American war. We should bear in mind the possibility of infection by the fly and be much more strict than we are at present in the disposition of sputum and in the protection of food-stuffs, and this refers particularly to the summer months."—Journal of American Medical Association.

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#### WHY WE FEAR THE FLY.

Flies are looked upon in general as simply an annoyance. The cleanly housewife endeavors to keep them out of the dwelling, but the men folks frequently fail to sympathize in the effort and leave the doors and screens open.

It has been learned now that the presence of the fly is not simply an annoyance but a real menace to the home because he brings infection from a distance. This fact has long been suspected, but has recently been proved.

It has been noticed by Dr. Hayward, bacteriologist, and other observers, that the flies flocked in numbers about the cuspidor of those suffering from pulmonary tuberculosis. A fly speck is a trivial thing apparently, but careful examination proved that the "specks" from these flies were full of tubercular bacilli. As a consequence of their presence, the bacilli of this horrid disease were scattered everywhere.

Flies imprisoned and fed on tubercular sputum died in two or three days after the infectious material was introduced. Other flies likewise confined and fed on milk lived from eight to ten days. The "specks" or feces of these flies were rubbed up with sterile water and injected into guinea pigs, and the pigs developed genuine cases of consumption.

These facts indicate the importance of suppressing the ordinary house fly. The use of screens, of fly poisons, and especially the cleaning up of all sources of infection where flies congregate, are among the practical measures for getting rid of this danger.—The Healthy Home.

## CIGARETTES AND THE BOYS.

To-day the cigarette is looked upon by all smokers as the very worst form of tobacco addiction. It is so cheap, it is so generally inhaled, it is often so loaded with drugs, and so many times made from cigar stumps and street scrapings, that there is every argument against its use.

Rev. James L. Hammond tells what he saw in a San Francisco opium den :

In a room not more than twenty feet square, down three stories underground, dimly lighted and dingy, where the air was so foul it almost overcame you as you stood in the entrance, I found twelve Chinamen, busy at work. Sitting flat on the floor, in the midst of indescribable filth, they were rolling cigarettes for the American boy to smoke.

There was a great pile of material in one corner of the room, and we struck a match and stopped down to examine it. We found it was cigar stumps and quids of tobacco, mixed with the vilest of sewer excretions.—The Healthy Home.

## TYPHOID.

The Health authorities of Philadelphia, during the recent prevalence of typhoid fever in that city, issued the following circular of information to the public :

"Typhoid fever is due to a germ that is taken into the body with the food or drink. The germ grows most actively in the intestines, hence this disease is also known as enteric or intestinal fever. The disease is not contagious, as the word is ordinarily understood, under certain conditions, though it may be easily caught by a well person from a typhoid patient.

"The hands of persons nursing typhoid cases always have the germs of typhoid fever upon them, even though they may seem to be perfectly clean. This being the fact, such persons should wash their hands thoroughly in chloride of lime solution immediately after handling the patient. The hands should then be scrubbed with soap and water. They should never eat their meals or handle foodstuffs without treating their hands in this manner. If they do not do this, they are likely to give themselves the disease through their soiled hands, or to convey to foods that they may touch the germs of the

disease, and in this way give the disease to the person who eats that food.

"The germ of typhoid fever grows rapidly on many kinds of food; especially is this the case with milk. No food that has been in the sickroom should be eaten by well members of the family. All food that has been in the sickroom should be destroyed by pouring upon it about a pint of chloride of lime solution.

"One of the ways that typhoid fever is carried is through flies. All foodstuffs in the house in which there is a case of typhoid fever should be carefully screened from flies, because a fly that has gotten its feet and wings soiled, if it lights upon foodstuffs, will deposit the germs of the disease upon them and render them liable to give the disease to any one who may eat them.

"All bed clothes or body clothes that are soiled from a case of typhoid fever should be soaked for half an hour in a pail of water, to which one-half pound of chloride of lime has been added. This should be done without taking them from the sickroom. If they are taken from the sickroom before this is done, unless very great care be used, the germs of the disease will be spread through the house.

"No one who is caring for a case of typhoid fever should at the same time attend a store from which food of any kind is sold.

"All cases of typhoid fever should be treated in a room that is occupied by no one else, except possibly the nurse. When circumstances permit, the patient should be provided with eating utensils, napkins, etc., that are to be used only by him, and they are to be scalded or kept for half an hour in the chloride of lime solution immediately after each meal and before being taken from the sickroom.

"Where proper care cannot be given to a case of typhoid fever, it is for the best interests, both of the patient and the community, that the case be sent to a hospital."



*CIRCULAR "A."*

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**CONSUMPTION IS PREVENTABLE AND CURABLE.**

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**HOW TO PREVENT CONSUMPTION.**

All cases of consumption are *contracted from others* and are *not inherited*. Consumption is *caused by germs*, which are *spit up by consumptives*. If all these germs could be destroyed, there would be no more cases of consumption.

*The clean and careful consumptive, who destroys all his sputum, is not dangerous to those with whom he lives and works.* The best way to destroy the sputum is to use *paper sputum cups* and *burn them* every day. *Never spit on floor or sidewalks.*

*Sunlight and fresh air* kill consumption germs which can live a long time in a *close, dark room*, where they may be inhaled in the dust. See that *all* your rooms are *bright and airy*, whether there is a consumptive in the family or not. *Don't move* into a room where a consumptive has lived until it has been fumigated by the Health Department. *People often contract consumption from such rooms.*  
—Bulletin of the Virginia Board of Health.

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**HOW NOT TO LIVE.**

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**BY THE DOCTOR.**

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Fully three-fourths of the people who come under my care for treatment are personally responsible for their illness. They have lived too fast. Men attempt to acquire fortunes in a few years which should require a lifetime of honest business method to accumulate. They "burn the candle at both ends." After working like slaves during the day they spend the good part of the night in drinking, smoking and dining.

Women in their efforts to comply with the demands of society

overtax their nervous system and resort to stimulants, narcotics, or hypnotics.

Our mode of life is all wrong. We are in one great procession of hustling, restless men and women, who are running rapidly towards confirmed invalidism or premature death. A well known artist thus speaks of the hustle and push of the nineteenth century life: "Man's business requires haste. The average business man and professional man eats in a hurry and gets dyspepsia. He walks in a hurry and gets apoplexy. He talks in a hurry and gets the lie. He does business in a hurry, and becomes a bankrupt. He votes in a hurry and produces corruption. He marries in a hurry, and gets a divorce. He trains his children in a hurry and develops spendthrifts and criminals. He gets religion in a hurry, and forgets it in a great hurry. He makes his will in a hurry, and leaves a legal contest. He dies in a hurry and goes to the devil. And his tribe steadily increases."—Journal Public Health.

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#### MAXIMS FOR PROLONGING ACTIVE AND USEFUL LIFE.

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NOTE:—A maxim is useful because of its readiness of application. The mind has to reduce its conclusions to postulates before it can apply them to practice.

1. The commercial value of a life lies solely in its productive period; the other periods are a burden upon this.
2. This period should be prepared for from infancy, protected in adult life, and extended as long as possible into old age.
3. Constitutional vigor is created mainly by proper food and proper hygiene in youth.
4. No person over forty years of age should subsist mainly on animal foods, which are very good in early life. The reason for this is contained in maxim 14. The elasticity of some of the most important tissues in the body cannot be preserved by a person over forty years who continuously loads up the body with the waste products of nitrogenous foods in excess, even if he had the best food in youth. Fruits and cereal foods should be largely and generally used by all persons over forty years of age.
5. Nerves are exceedingly important. They grow best in the

country. Let youth be passed as much as possible away from the crowded centers of population.

6. Education may be misdirected, and may be overdone. A good machine may be ruined by making it too elaborate. A good knife may be rendered useless by sharpening it all away.

7. Regular, moderate physical exercise is essential, and is generally neglected.

8. Do not make a burden of amusements. They may, and often are, made worse than overwork or undue worry.

9. Do not set an impossible ideal of life. It results in disappointment, and that ages.

10. Cultivate a serene mental attitude, and develop a capacity for deliberate enjoyment of whatever is at hand. The greatest pleasure often comes from little things easily and often overlooked.

11. Avoid every excess. Do not overwork, overplay, overeat, overdrink, or oversmoke, or allow yourself to become overinactive.

12. Do not assume obligations that you cannot discharge. This is the secret not only of much physical, but of much moral and mental disaster.

13. Study your diet, and your hours of labor, sleep, and relaxation, and conform to your constitutional requirements.

14. Take particular precaution to preserve by daily actions the elasticity of all the tissues.

15. Maintain self-respect, avoid sordidness and gloom, and "grow old gracefully."

16. It is desirable to diversify your interests. Have one or two restful diversions, using a portion of your time away from your regular occupation and habitation.—Teacher's Sanitary Bulletin.



## "LIQUOZONE."

Dr. C. A. HARPER,

Secretary State Board of Health,  
Madison, Wis.

DEAR SIR:

The sample of "Liquozone," submitted by you in an original package has been analysed by me with the following results:

Appearance: a clear straw-colored liquid, of a sour taste and possessing the odor of sulphur dioxide in a marked degree.

Reaction toward litmus paper: strongly acid.

	Per Cent
Residue at 100 C (black liquid) . . . . .	1.340
Sulphuric Acid ( $H_2SO_4$ ) . . . . .	1.010
Sulphur Dioxide ( $SO_2$ ) . . . . .	0.228
Hydrochloric Acid (HCL) . . . . .	0.027
Silica ( $SiO_2$ ) . . . . .	0.0013
Ferrous Sulphate ( $FeSO_4$ ) . . . . .	0.0044
Calcium Sulphate ( $CaSO_4$ ) . . . . .	0.0146
Magnesium Sulphate ( $MgSO_4$ ) . . . . .	0.0094
Sodium and Potassium Sulphates ( $Na_2So_4K_2SO_4$ ) . . . . .	0.0050
Ammonium Sulphate . . . . .	A trace
Organic Matter . . . . .	Small Amount
Water and other substances volatile at 100° C . . . . .	99.660

On account of the presence of sulphur dioxide in this preparation, the presence of free oxygen, ozone, hydrogen peroxide or of any other substance capable of giving off oxygen at ordinary temperature, is impossible. The small quantities of silica and of iron, calcium, magnesium, ammonium, sodium and potassium salts in the preparation, may come from the use of ordinary spring or well water in its manufacture.

Very truly yours,

RICHARD FISCHER,  
State Chemist.

It will be seen from the above analysis that water and sulphuric acid are the main constituents of Liquozone. Sulphuric acid is purchasable wholesale at about one and a half cents per pound, or

twenty-one cents per gallon. Hence, the cost per bottle to manufacture this can readily be estimated.

Sulphuric acid is described by Dr. Hobart Amery Hare in his "Practical Therapeutics" as follows: "Sulphuric acid, or oil of vitriol, is a powerful irritant and escharotic, rapidly dehydrating and carbonizing the tissues causing them to become black. It is the most astringent of the medical mineral acids."

Dr. Sydney Ringer, in his handbook of "Therapeutics," says: "From their great affinity for water, sulphuric acid and phosphoric acid are especially energetic; they withdraw the element from the texture and thus effect their complete destruction. In adequate quantity, they will destroy the tissues to a considerable depth and produce a brown or black eschar."

The boards of health in some of the western states have pronounced Liquozone as "poisonous for internal use" and have required poisonous labels to be placed upon the bottles and designated "For External Use."

The medical qualities of this preparation are practically valueless and the dangers encountered by its free administration might be serious.—Wisconsin State Board of Health Bulletin.

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Frequently the advice of a physician in the manner of dress in order to promote health is immediately overruled by the instructions of a dressmaker in order to conform to the prevailing style.—Wisconsin State Board of Health Bulletin.



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## OFFICIAL BULLETIN

PUBLISHED MONTHLY AT JACKSONVILLE, FLORIDA, BY  
THE STATE BOARD OF HEALTH

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New Series No. 2

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The first issue of Health Notes was mailed out late in July. Its reception by the press and the public at large has been very encouraging. We feel that there is a distinct need for a publication devoted exclusively to educating the people of Florida in matters pertaining to the public health. It is to supply this need that Health Notes has been called into existence.

The State Board of Health may not endorse everything that appears in these columns, but the effort is to incorporate only such things as stimulate thought—anything that does that is worth reading.

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Some things may be repeated from time to time—we offer no apology for it—some things are worth repeating.

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It is pleasant to relate that during the month of July, only four cases of small-pox were reported in all the State—one in Lake City, one in Fernandina, one at Pablo, and one at Jacksonville. Prompt isolation and vaccination of those exposed or likely to be exposed, arrested its spread in every instance.

Only one case of diphtheria was reported during the past month. We recommend that antitoxin be administered in all cases of diphtheria, in proportion to the severity of the attack, and as early in the disease as possible. Other forms of sore throat are often materially benefitted by the administration of antitoxin, and as no harm ever comes from its use, in all doubtful cases it should be given early.

The State Board of Health pays for antitoxin used with the indigent upon the following conditions; viz:

1. That the case is promptly reported to the office of the Board.
2. That the family in which it occurs is absolutely unable to pay for medicine or medical treatment.
3. That the attending physician gives his services gratis.
4. That the attending physician sign the following certificate, blanks of which will be furnished upon application:

\_\_\_\_\_, Florida, \_\_\_\_\_-1905.

I hereby certify that \_\_\_\_\_ is an indigent patient under my care, and is suffering from \_\_\_\_\_ for whom I have prescribed \_\_\_\_\_ units of Antitoxin of \_\_\_\_\_; and I further certify that said \_\_\_\_\_ is not pecuniarily able to purchase the above named agent, and which in my professional opinion is demanded and required to save the life of said patient. I also certify that my professional services in this case are given gratis.

I also certify that Mr. or Messrs. \_\_\_\_\_ have furnished the above Antitoxin.

Signature of Physician: \_\_\_\_\_

It must not be inferred from this that the State Board of Health either carries in stock a supply of antitoxin or purchases it when needed. It does neither. The druggists over the State generally keep it on hand. But sometimes, in small towns, it cannot be had on short notice. In such cases parties frequently wire the State Board of Health for it. The Office always takes pleasure in placing such orders with some druggist here who does carry it. But *the responsibility of the Board ceases with placing the order.* The matter then becomes a transaction between party purchasing and party selling. The druggist in that case charges it to the man who orders it. If it is used with the indigent, the physician so certifies and sends the certificate to the druggist. The druggist then attaches the certificate to the bill and sends to the State Board of Health for audit and payment.

The State papers will confer a favor upon the State Board of Health if current circulation through the press is given to the above.

Tuberculosis still leads in number of new cases, twenty having

been diagnosed by the laboratory during the past month. Please read Dr. Graham's article on Tuberculosis, in this issue, and give it a few minutes' thought. You owe it to good citizenship to know something of the frightful mortality of this dread disease.

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Hydrophobia has prevailed in and around Jacksonville to some extent, but seems to be on the wane. Only one animal examined at the Laboratory of the Board during the month showed the disease. One child bitten on July 4th died at the Pasteur Institute. The Jacksonville Mayor's crusade against dogs is to be commended in the highest terms. What are all the dogs in the city worth when compared to a single human life?

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Seventeen cases of typhoid fever have been diagnosed by the Laboratory during the month. This does not mean that there have been only seventeen cases in the State—it means that seventeen cases have fallen into the care of physicians who take advantage of the Board's Laboratory for more accurate diagnosis. All doubtful cases of fever should have the advantages of the most modern methods to determine their exact nature. It is for this that the Laboratory is established and maintained, and its services are given without charge.

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#### EMBALMERS' EXAMINATION.

There will be held at the office of the State Board of Health in Jacksonville, sometime in October, definite time to be announced later, an examination for embalmer's license.

Those wishing to take the examination should communicate directly with Mr. Chas. A. Clark, of Jacksonville, who is President of the State Embalmers' Association and member of the examining board.

The State Board of Health makes no charge for holding the examinations or issuing licenses but it does expect and require applicants to be qualified for doing practical embalming. It is very embarrassing to the examining board to have to turn down an applicant and it is likewise humiliating to the applicant. It is earnestly hoped, therefore, that all who apply will be reasonably well qualified.

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#### VITAL STATISTICS.

Statistics in a general way may be said to be a gathering together of occurrences or happenings into groups, from which compi-

lation useful information can be deduced by study and reasoning but that facts of whatsoever character grouped together or singly may have any significance, they must be truthful and accurate. It is not true that "figures never lie." Two and two make four—that is true; but unless one is positive that it is only two and two which is represented in the statement and possibly not ten and ten, while not a lie directly stated, yet two and two does not accurately represent a fact upon the reliability of which a statement representing certain statistics which is being discussed, must depend.

This assertion may be accepted as true for statistics of every kind. If a collection of occurrences in manufacture, arts, science, and business of every and whatsoever description does not accurately represent the facts which are claimed, they are worthless, misleading and deceptive.

The Health Notes premises its remarks on Vital Statistics by the above homily because the Vital (life) Statistics which are now being made to the State Board of Health are absolutely worthless because misleading. The births and deaths occurring in the State are not reported to the Board as the State Statute directs and as the Rules and Regulations of the State Board of Health on this subject require.

"Why?" it may be asked, "Do not the physicians of Florida comply with the law in this respect?" The answer may be given: Indifference to the importance of the subject; carelessness in some instances; contumacy of the law and the requirements of the State Board of Health, and pertinacious opposition in many cases. This latter reply is not too harsh a statement of facts because in a courteous inquiry made in regard to certain facts, omitted in a certificate of birth or death which the Census Bureau of the United States sets forth in a uniform requirement on its blank to be answered, the State Health Officer has been told: "If you want the genealogy of the family, you had better come yourself or send someone down and get it."

For seventeen years the State Health Officer has pleaded with the physicians of the State of Florida for better reports of births and deaths occurring in their practice. He has obtained permission from the State Board of Health to supply blanks and postal cards, to be freely distributed for this purpose, and he has gone a step further and gotten additional permission to pay ten cents for each birth and death reported. But importuning and pleading has availed nothing, and it is sad to relate, but it is truthful, neverthe-

less, that among the profession living within the confines of the cities, the patriotic spirit of State pride in Florida's healthfulness and peculiar adaptability for relief or cure of certain diseases is not up to the standard of ideal citizenship, else each would vie with the other in furnishing the State Board of Health with the name and record of every birth and death occurring in his or her practice or under observation, that the State Board might thus truthfully say to the public, "These figures accurately represent the life movement of the State in total and separately for certain diseases."

It has been argued and the State Board of Health has been told by some doctors "This is a fad", that "There is no useful result to be had from putting me to this trouble." It matters not what individual opinion on the subject may be, it is the law of the State that these reports shall be made to the State Board of Health and as good citizens having due respect for the law, it is the duty of every doctor, practicing medicine in Florida, to comply with the requirements. Again, there is more than a moral obligation of good citizenship which demands of every physician that he or she shall report such Vital Statistics as occur in their practice. A sense of gratitude should suggest such a course if legal duty does not impel it. The State of Florida through its Legislature has removed the yearly license tax on physicians. Is it too much for the State to ask that in return for this concession each doctor devote a few minutes every month to mailing to the State Board of Health birth and death reports which have occurred in his or her practice during the past month, especially when blanks are furnished for this purpose? The State Health Officer with other physicians of the State of Florida, who observe the Vital Statistical Law, were instrumental in persuading the law-makers of the State to omit any license tax on the medical profession, and he with others of his associates in the work are disappointed to find that the country members of their profession are unappreciative of their efforts. They are evidently willing to accept all and everything of a personal benefit but are unwilling and refuse to be public spirited even to giving monthly a few moments of their time.

It may be that the Legislature next year will consider its generosity misplaced and may replace the license tax, who knows? If it does, where will the blame lie?

J. Y. P.

## NOTICE.

On July 1st, the following notice of the suspension of Rule 14, in the form of a circular letter, was sent to the several registrars and sub-registrars of Vital Statistics in the State. In order to give it wider publicity, it is published here in full. (State papers will please copy.)

Jacksonville, Fla., July 1, 1906.

## SUSPENSION OF RULE 14.

*To All Registrars and Sub-Registrars of Vital Statistics of the State Board of Health of Florida:*

DEAR DOCTOR AND OTHERS—The discouraging character both in number and rendition of vital statistic reports received at the office of the State Board of Health for several years past, and which notwithstanding a constant pleading on the part of the State Health Officer to the physicians of Florida for better and more prompt and more accurate reports has been ignored in the majority of instances and treated with indifference, has led to a suggestion and recommendation to the President of the State Board of Health for a suspension of Rule 14 of the Rules and Regulations of the State Board of Health which provides for a payment of ten cents for each and every birth and death reported to the office of the State Board of Health, during the year. If the State Board of Health cannot obtain a reasonably sure proportion of statistics of this character, any statement based upon a partial computation is misleading and deceptive and untruthful as representing the life movement of the State's population.

A State statute requires the physicians of the State and others having charge of State institutions, as well as coroners, to make returns of every death and every birth coming under their control or observation and occurring in Florida, to the State Board of Health. The State Board of Health has no legal right nor does it propose to advise such that the moral and legal responsibility imposed by the State statute shall be suspended or abrogated, but as there has been no general cooperation in this work given by the medical profession to the State Board of Health, it is thought that any further payment for partial returns had better be discontinued, and this suggestion, which meets with the approval of the President of the State Board of Health, WILL GO INTO FORCE to date from the end of the fiscal year ending June 30th, 1906.

Be it clearly understood that failure to report births and deaths is as distinctly a violation of law as it has been in the past.

Very truly,

JOSEPH Y. PORTER,  
*Executive Officer State Board of Health.*

## WEEDS AND MOSQUITOES.

Quite a furor has lately been raised on account of weeds and their relation to mosquitoes. Various city ordinances require all weeds to be cut, because it is alleged they harbor mosquitoes. And we noticed that recently, in Tampa, a certain householder was ordered to cut the weeds in his yard, but he refused, because he said they were rose geraniums, and not weeds.

This brings up the question of how to tell weeds from flowers. The difference between the two is purely an aesthetic one, and so far as they influence mosquitoes, there is no difference. That a dog-fennel has any more influence upon the prevalence of mosquitoes in a given vicinity than a rose bush is not for a moment tenable. We would not be misunderstood as advocating letting the weeds grow but would destroy them because they are unsightly and show thriftlessness and not because of some fancied connection with mosquitoes. Furthermore, the same spirit of indifference that lets weeds fill the back yard will let tin cans accumulate where mosquitoes may breed, and will leave wash tubs unemptied to perform the same function, and will allow decaying vegetation to remain on the premises unmolested to give rise to unsavory odors, and will permit flies to take possession of the privy and the dining room alternately. It is this placid indifference that is to be combated rather than the weeds.

It is further urged that weeds furnish a hiding place for mosquitoes, but it should be borne in mind that the number of mosquitoes in a given locality does not depend upon the hiding facilities, but upon the *hatching* facilities. Besides it is open to question whether our common fresh water mosquitoes, particularly the disease carriers, ordinarily take refuge in weeds. The salt marsh breeders, the *Culex taeniorhyncus*, which at times prevail in swarms down the East Coast, take to shelter when the wind is strong, because they are frail of wing. But they take to whatever shelter is offered, houses, barns, cellars, fences, bushes, weeds, grass, palmettos, or indeed anything that will serve as a wind-brake. But further than this it is our observation that mosquitoes rarely take to such shelter.

H. B.

## A CHAPTER IN NATURE STUDY.

And Nature, the old nurse, took  
 The child upon her knee  
 Saying: "Here is a story-book  
 Thy Father has written for thee.  
 Come, wander with me," she said,  
 ' Into regions yet untrod  
 And read what is still unread  
 In the manuscripts of God."  
 And he wandered away and away  
 With Nature, the dear old nurse  
 Who sang to him night and day  
 The rhymes of the universe.  
 And whenever the way seemed long  
 Or his heart began to fall  
 She would sing a more wonderful song,  
 Or tell a more marvellous tale.

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—Longfellow to Louis Agassiz.

In these days, no school room is considered complete unless it shows visible evidence of nature study—seeds, germinating to demonstrate the storage of food for the embryo, plants growing near a window to demonstrate heliotropism, cocoons waiting from fall till spring to demonstrate metamorphosis of insects.

But the child mind likes to see things happen in a hurry. It rebels against waiting from fall till spring to see a moth emerge from the cocoon. And then after all the months of waiting, to have the moth come out in the night, as it commonly does, taxes the patience of the most enduring.

To grow mosquitoes in the school room, is at once the easiest, the most instructive, the most useful, and the most fascinating nature work that can be undertaken. They can be found and grown anywhere. They undergo complete metamorphosis, that is passing through the four stages of development, egg, larva, pupa, and imago and complete the cycle, in ten days to two weeks. Nothing better is known for illustrating the terms *genus* and *species*, and emphasizing the necessity of the binomial nomenclature. And now that mosquitoes are known to be the sole means of transmitting certain diseases, as malaria and yellow fever, the teacher who gives her pupils a working knowledge of the life and habits of this insect, not only benefits the pupil for all time to come but likewise confers a lasting benefit on the State.

To prepare an aquarium, take a glass fruit jar, clean it well, fill it an inch with sand, put in a few decaying leaves, and fill half full of water, preferably rain water, and the aquarium is complete.

To stock it with wigglers, capture a few mosquitoes that have bitten some one and put them in the jar, and tie a piece of cheese-cloth over the top, to confine them there. In a day or two a batch of eggs will be found floating on the water, and the mosquito likely dead. The eggs will hatch in 24 to 48 hours, according to the temperature, and the tiny wigglers, just large enough to be seen will begin to grow.

Of course it will not do to handle the mosquitoes roughly in capturing them. The best way is to take a small bottle, as a 1-4 ounce quinine bottle, and opening it, gently place the mouth over the mosquito where it is seen perched on the wall or mirror after feeding. Then invert it over the fruit jar and the mosquito will go down into the jar. It is best also to have a bit of cork floating in the jar for the mosquito to perch on.

Another way to stock the aquarium with wigglers, is to set a pail of water, preferably rain water, in some shady nook in the yard, and half cover it with a board. Watch it, and in two or three days the eggs will be found on top of the water soon followed by wigglers. These can be transferred to the aquarium and taken to the school room.

#### Things to observe:

1. That the wigglers eat and grow and that as they get too large for their skin they cast it off, in order to have room to continue growing. Here the pupils can be taught how crabs, lobsters, crayfish, and all crustaceans grow and cast their hard shells off at intervals, because there is no longer room inside.
2. That the pupa does not eat. Here it can be shown that insects that undergo complete metamorphosis, that is that pass through four stages of development, have a latent stage, which is, the egg, an active feeding and growing stage; the larva, which is the wiggler of mosquitoes, the maggot of flies, the caterpillar of moths and butterflies; a developing stage, the pupa, which neither eats nor grows, and though the pupa of the mosquito is very active, the pupae of flies, and butterflies are quite helpless; and last the reproducing stage, which is called the imago, or full grown insect.
3. It is to be noted too that the male mosquito has plume-like palpi or "feelers" on his head while the palpi of the female are sparsely hairy.
4. It is to be noted too that the males do not bite—only the females do.
5. Note also that both males and females may be induced to eat fruit or sugar. See what else you can get them to eat.

6. When you have gone this far with your pupils, they may be shown what pure white stripes and bands characterize the stegomyia, how the anopheles perch upon the wall, what time of day each kind bites, how long they can be kept alive by feeding them—how they pass the winter—what other creatures hibernate; how hibernation is nature's method of passing some of her children through an unfavorable season; how in the case of peach trees nature takes them through the cold weather by stopping all growth, throwing off all leaves and putting the tree in a kind of hibernating state, and so on.

7. You can count the number of eggs in a batch and find from 150 to 400. You can estimate the time it takes them to hatch, and how long it takes the offspring to become full-grown mosquitoes and likewise breeding, and how many generations can be produced in a year, and how many mosquitoes might come of a single pair, assuming that none get killed. And when you see it mount up into millions of millions, you can show the pupils:—

8. What enemies the mosquitoes have—how many eggs never hatch, how the water dries up and leaves the wigglers to die, how they get drowned, and a thousand ways that mosquitoes are destroyed at every turn of their existence—thus from the mosquito as a starting point, Mother Nature is approached from many sides—and always ready to answer any inquiry properly put.

H. B.

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### SAVE THE BABIES.

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BY J. HARRISON HODGES, M. D.

*Agent State Board of Health.*

Gainesville, Fla.

From one-fifth to one-third of all children born into the world die before they reach the age of 2 years. This is a sad and startling truth. Millions of these infants would undoubtedly live if there were a more general knowledge of the correct rules of infant feeding. The highest death rate is during the first year of life. Of the two million children born in Germany in a year as many as 400,000 die before they are one year old. The statistics for this country are not less startling. In some of our cities 300 of every thousand children born, die during the first year. Of this high mortality among infants the highest is always during hot weather. Of all the infants who die, one fifth die during the month of July. But it is not the heat

that kills them. It is the effect of the heat acting upon the food in such a way as to cause digestive and intestinal troubles that kills them. Now can anything be done to stay this sad havoc of human life? I answer most emphatically *yes*. What is it? Study the question of *infant feeding*. This is the paramount issue. I need not pause to tell any of the readers of *HEALTH NOTES* that the mortality among bottle fed infants is vastly greater than among those who are nourished by the mother's milk. Mother's milk is the natural and only perfect food for an infant. There is no perfect *substitute* for the mother's milk. But some substitutes are very good, while some are very bad. Some substitutes may be better than the mother's milk for an infant if that mother is ill or unfit or unable to nourish the infant. Of all substitutes for mother's milk some modification of cow's milk is the best.

But when it becomes necessary to adopt an artificial food for an infant it should be remembered that *even a little breast milk* each day will increase the infant's chances of life.

While the milk of the cow is the best substitute for mother's milk it is unfit for the baby's stomach without some modification. Some of the rules governing the use of cow's milk as a food for infants may be summarized as follows:

1. It must be diluted with water, lime-water, barley, oatmeal-water, beef broth, or mutton broth.
2. The milk should be fresh—the fresher it is the better it is digested by the infant. In 24 hours it becomes unfit for use.
3. The milk should be bottled at the dairy if possible to exclude all dirt and impurities. The less it is carried in open pails the better.
4. Milk from cows fed on swill, kitchen slops, etc., should not be used. Infants should only have milk from grass fed cows.
5. Milk from the common breeds of cows is better for infants than milk from Jerseys and other fine breeds.
6. Milk from a herd is better than milk from one cow.
7. It is essential that the milk should be *clean*. One bottle of tainted milk may kill the infant.
8. Clean, fresh milk *does not need scalding, sterilizing or pasteurizing.*

CONDENSED MILK should never be given to an infant for a long time. It contains too much sugar and not enough fat. Babies fed on it for a long time are apt to have rickets and other diseases. It

should only be used to tide over an emergency or when fresh, clean, pure cow's milk cannot be obtained.

Of the MANUFACTURED Foods few of them have sufficient fat and most of them contain too much starch. Some of them have some value when used in modifying cow's milk.

Let it be understood that there is *no perfect substitute for the mother's milk* but that cow's milk *properly diluted and modified* is the best substitute. Undiluted and unmodified it is *a dangerous and unfit food for infants.*

#### INSECTS AND SANITATION.

Physicians should lose no opportunity to urge upon the public the agency of flies as carriers of disease germs and of mosquitoes as both breeders and carriers of them, and the great importance of destroying the breeding places of these pests and of screening all dwellings so that they may not enter. A great step in the suppression of disease will have been taken when this is accomplished.

From the Medical Council, June 1906.

#### TUBERCULOSIS.

The following well-written article published in the Times Union from the pen of Dr. W. S. Graham, himself a sufferer from tuberculosis, but at the same time a close student of sanitary science, is reproduced in full. If this fell disease is ever to be wiped out of existence, it will be by the active and intelligent cooperation of the public at large, and not by the unassisted health authorities of the country. Dr. Graham's article is not clothed in technical terms, which makes it all the more valuable. It should be widely read and seriously thought on. Every man who aspires to good citizenship should know a few facts about tuberculosis—should know that it is a disease caused by a "germ" which is liable to attack any part of the body, and that when it attacks the lungs we call it consumption; when it attacks the skin we call it lupus; when it attacks the lymphatic glands we call it scrofula; when it attacks the knee we call it white swelling; when it attacks the hip joint we call it hip joint disease; when it attacks the spinal column, we call it Potts disease; when it attacks the meninges of the brain we call it tubercular meningitis; and so on, and so on; in short the well should know how to avoid getting the infection, and the sick should know how to avoid infecting others.

## CONSUMPTION OF THE LUNGS.

## A PREVENTABLE AND CURABLE DISEASE.

BY WALTER S. GRAHAM, M.D.

Consumption, or "the great white plague," is a subject of great interest to a large percentage of readers; during the past few years very many articles on this subject have appeared in the daily and weekly newspapers and in the magazines, so that the reading public understood the disease much better than five or ten years ago.

Not many years ago consumption was considered incurable. Now few intelligent persons will deny that it can be prevented and can be cured, for the curability and preventability of consumption is established as a fact.

Ten years ago one in every five adults in the United States died of the disease, but the great interest which has been aroused on this subject in all parts of the civilized world and the widespread measures which have been taken to prevent its ravages and intelligent methods of treating the disease which have now been almost universally adopted lead me to feel confident that less than one person in every seven who read these lines will die of the disease.

*Of Vital Interest.*

Surely the discussion of this subject is of vital interest, being a matter of life and death to say one person out of every seven who read these lines, and worse than that is the appalling fact that one out of every three persons between the ages of 20 and 35 fall victims—claimed by the grave in the prime of manhood.

You who are in splendid health today may become a victim and be one of the 140,000 who will die of the disease in the United States next year, or if its attack on you is not fatal so soon you may become one of the multitude or more than 600,000 people in the United States who are suffering with the disease and linger on for one, three, or five or ten years, partly or wholly incapacitated for business or labor, a burden not only to yourself but also a burden and source of danger to those you love dearest.

Having told you briefly a few brief facts in regard to the widespread prevalence and fatal character of this disease, which is indeed "the great white plague," allow me to ask, "What are you going to do about it?"

*The Silver Lining.*

I have touched on the dark side of the picture, but this black cloud has a silver lining.

It may startle you to learn that this disease, which kills more people in the world than all the wars, famines and pestilences combined, can be banished from the world, but to do this the mass of mankind must be taught how to make the fight and we must "help one another" in the struggle.

Consumption is an infectious disease, more so than yellow fever; the latter is not directly infectious; its poison can never infect you by coming into your system directly from a yellow fever patient; it must first be taken up by one certain variety of mosquito at a certain stage of the disease and then undergo further development in the system of such mosquito before its bite can infect you, but no mosquito or other third party is needed to transmit the poison of consumption, which is directly infectious.

*How Transmitted.*

An advanced consumptive, when coughing violently in the seat behind you in a railway car, theater, church, etc., will throw out a fine spray of moisture containing hundreds of thousands of "bugs" in one single spell of coughing, and if you are not in vigorous health or immune some of them may be inhaled by you and find a home and plant some colonies in your lungs, or a consumptive may occupy a room at a hotel and expectorate more or less matter from his lungs upon the floor. This substance then becomes thoroughly dried and breaks up into very fine dust and if you occupy the same room a week or a month later and inhale some of this dust, which is made up of dried matter from the lungs of a consumptive you are very liable to become infected, unless you are in perfect health or immune to the disease.

There are very few hotel rooms, state rooms on steamers or berths on sleeping cars which are not more or less contaminated with this dried expectorated matter, and if it were not for the fortunate fact that about four-fifths of all human beings in the civilized world appear to be immune or not in condition to take the disease it is believed everybody would become a victim to its ravages.

Consumption is preventable, and if the mass of the people only understood how to prevent it and would try to do so it would be banished entirely from the world, in the course of fifty years the fight can be made successfully, but the scientists, law makers, health

authorities and the medical world cannot do the work alone. They must have the co-operation of the masses, and I am confident they will have it. It is with a view of arousing their interest and securing their help that I write these lines.

*Campaign of Education.*

In New Orleans last summer when yellow fever was epidemic those who were fighting that disease caused lectures to be given in the public schools and other suitable halls, instructing the people how to prevent the disease. The newspapers also published every day short articles in simple language on the subject, so that in a few weeks the great mass of the people in New Orleans understood the manner in which yellow fever was enabled to spread. They understood that if they could only control the mosquito they could control the yellow fever, and once they knew how to make the fight they helped the health authorities and won what must be considered a wonderful victory, for it is almost impossible to control all the mosquitoes in as large a city as New Orleans, and in such a swampy location.

The epidemic, however, was controlled better than could have been reasonably expected, and was finally stamped out before frost because the people understood what to do and nearly everybody helped in the work. They knew that if they could only control the mosquito they could control the yellow fever. Now, I believe the average American citizen is just as intelligent and willing to help in a good work as the citizens of New Orleans proved themselves to be last summer, and I believe that once they know that if they can only control the expectoration of consumptives they can control consumption and stamp it out, they will undertake the good work.

Yellow fever only visits a very few cities in the South, and such visitation only occurs once in say, ten years, but consumption is always present in every city, village and cross-roads settlement in the United State; it is so common and the people are so used to it they look upon it as a necessary evil, and do not realize the extent of its ravages. Yellow fever visited Florida last year, and there were eighty-one deaths in the state. The Board of Health spent \$44,000 in stamping it out successfully, but there were over 800 deaths from consumption in Florida last year, and yet no more than \$3,000 at the most was spent in fighting the white plague, though it killed four times as many as the yellow one, and its ravages are going on continually.

*Board of Health.*

The State Board of Health spent about \$15,000 last year in fighting small-pox, and not a single death of that loathsome disease was reported to the State Board of Health. There were perhaps a few deaths from small-pox in Florida, but surely not more than ten, though none were reported, and yet five times as much money was expended in controlling small-pox than was spent in controlling consumption, though the latter killed, say thirty times as many as the former. Fifty years ago the ravages of small-pox were terrible, but science has triumphed, mainly, because people have learned how to prevent it. The great majority of people are glad to be vaccinated, and many others have been compelled to submit to it, so I believe it is safe to presume that more than 90 per cent of all the people in Florida are protected against small-pox, and the official report for last year does not show a single death as resulting from that disease. The expenditure of \$44,000 in controlling yellow fever last year, and of \$15,000 in eradicating small-pox was surely a wise expenditure, for who can place a value on human life? How many hearts yet ache when they recall the terrible ravages of the yellow plague in Jacksonville in 1888. Fifty years ago few people believed that small-pox could ever be so thoroughly stripped of its terrors as it now is. It required many years to convince the masses that vaccination was an effective protection.

*To Banish White Plague.*

Today there are comparatively few people who believe that consumption can be practically banished from the world during the next fifty years. It can be done, but the mass of the people must help our lawmakers, philanthropists and medical men. Surely when we see such splendid results realized by the State with the expenditure of such a comparatively small sum of money in protecting its citizens from yellow fever and small-pox we must agree that it is our duty to urge the next Legislature to undertake a vigorous fight against the most deadly foe of all, "the great white plague." This article is already longer than it should be, but I hope to give my views as to how the fight can be made in the most effective manner and with the least expense and give some hints to those unfortunates who are already infected as to how they can arrest its development to all such except those in the most advanced stages, the most emphatic encouragement and hopes can be given and the entire treatment can be condensed in a single line:

"Rest, pure air, abundant nutrition, and above all, patience."  
Miami, Fla., June 10, 1906.

# FLORIDA HEALTH NOTES

## OFFICIAL BULLETIN

PUBLISHED MONTHLY AT JACKSONVILLE, FLORIDA, BY  
**THE STATE BOARD OF HEALTH**

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### SOME HINTS IN SANITARY PRECEPTS.

A suggestion to improve conditions, whether in business, for comfort, or for healthful living, must have a ring of practical utility to make any impression or invite encouragement to the scheme from listener or reader. Theories and suppositions and abstruse speculations find no favor nor command interest nowadays among the common run of people as we find them? The invariable query to every proposition is, Is it feasible to do this? Can this movement be practically applied in every day life? Now, in health matters, Hygiene and Sanitation, the one being usually directed to individual health, and the other to the health of the public, are not exceptions to the general rule of sceptical inquiry. It is unfortunately too true that the popular belief concerning these subjects, is that they are patent right affairs solely for delectation of the Medical Profession and like the Sanctum Sanctorum of the Ancient Religious Ceremonies, must not be intruded upon nor invaded by any other than the disciples of the mythical Esculapias.

There is nothing mysterious about cleanliness, and cleanliness is

the basic principle of Sanitation. Neither is it difficult to understand why to be clean enhances comfort, and improves health. A child can understand this for it is a fact admitting of no dispute, nor argument. Now, it is the practical application of this knowledge which may be said to be hard sense—horse sense if you will—that the NOTES invites attention to and asks every reader to think about.

The housekeeper can give an impulse to practical sanitation by seeing that carpets are kept swept, that dust is mopped up with a damp cloth and not scattered by a feather duster to again settle in other spots; that pitchers and slop bowls in the spare chambers are kept empty until guests arrive and the room is needed, so that the pesky mosquito may not have an opportunity to increase by laying eggs, for every one knows or should know that mosquitoes only lay their eggs in water and hatch out in water; that the refrigerator is scrubbed out at least three times a week, and daily if possible, using hot water and soap to do the cleaning; that milk, fish, meats and vegetables, are not kept together in the same apartment in the refrigerator, and that milk is always stored in tightly fitting stoppered bottles. These are some of the little sanitary practices which the mother and housekeeper can find of practical benefit and for which no medical man need be consulted. Of course everybody knows all this, but isn't it strange that so many people are found who neglect to put into practice what they know?

The man of the house—the Head of the Family—can also find many things pertaining to practical sanitation which he can successfully do about the yard and premises and with little trouble. Keep the weeds down because they are unsightly and afford a very favorable hiding place for all sorts of filth. Rake out and cart away every old tin can and pail. Caution the servants and see that they do not leave tubs with water standing for days, and that duck ponds are emptied every day or two, and that ornamental fountains are likewise attended to, or are stocked with minnows. All of these measures are obviously to prevent mosquito breeding, and mosquito breeding may possibly propagate either the Anopheles or the Stegomyia and if a case of malaria or yellow fever chances your way, mosquito breeding of either of these varieties would certainly give trouble.

The Man of the House can also direct his attention to suppressing the fly nuisance. How? by personally seeing to it that the stable is kept clean, manure heaps avoided, and until carted away, that each morning the manure pile is covered liberally with lime to several inches. Flies only breed in horse manure; lay their eggs there. Do you know that? Therefore, if the fly eggs are killed as soon as layed, the quantities of flies will be daily lessened

until the nuisance is corrected entirely. This is easy to practice and attention to this small feature of cleanliness constitutes another factor in practical sanitation.

In places where there is no sewerage system and surface closets—privies—are used, daily attention should be paid to the excreta lest it become a nuisance. The system is disgusting enough anyway, but the neglect which attends these receptacles in many of our inland towns is well calculated to drive visitors away, especially those transients who come from portions of the country provided with a water carriage system for disposal of domestic waste. A mixture of lime and dry earth can be kept in each building of this character, with printed request that a scoop full shall be thrown into the pail after every evacuation. Then frequently empty the pails. Where? At a distance from human habitation, unless a cremation furnace is handy, and then by all means destroy this filthy mass by burning.

If Typhoid Fever lurks in a community and the source of infection cannot be traced, then by boiling all drinking water a possible means of introduction of the germ into the human system will be prevented. Here again is found a practical application of a sanitary caution and forethought, against disease introduction.

The NOTES does not propose to write treatises on sanitary subjects but to throw out hints—food for thought as it were. The NOTES hopes that it may induce many to think and that practical results will follow. Sanitation in practice is what the State needs, and the average citizen can if he or she will, find plenty of useful applications of sanitary principles if an eye is only cast about to find them, and will exercise his or her common sense in carrying out such thoughts.

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The Laboratory reports that during the month there were received six specimens improperly prepared. There is quite an art in preparing certain kinds of specimens, being second only to examining them. To make a good blood smear for examination for malaria is an accomplishment that comes only with practice. However, that should not deter one, for most physicians in Florida have a great many opportunities during the year to make such smears, opportunities that if grasped would redound to the benefit of both the patient and the physician. If instructions accompanying outfit are carefully followed a reasonably good smear may be confidently expected. But if a way of your own is adopted, it is likely not to be so good a smear.

## SIMPLE SCIENCE TALKS.

There is a current opinion that it is not worth while for any one except the physician to even try to understand the laws of health. It is to combat this opinion that the following "Simple Science Talks" are given. And I promise you, whoever you are, that if you will begin with the first of these talks, and follow them month by month, as long as they may be published, reading them carefully, once, twice or as many times as necessary to get a clear idea of the meaning—I promise you if you will do this, you will reap both pleasure and profit from it; you will be surprised many times, as you see unfolded before you the fundamental facts underlying modern sanitation. But I warn you that you may as well not begin at all as to read by fits and starts. This is no easy task you are undertaking. Great men of all ages have spent their lives endeavoring to find out what is to be told in the following talks. If you are going to work in a milk-and-water spirit don't begin. But if you are capable of doing a thing with some degree of thoroughness, and if you are earnest, and if you are *willing to work*, you shall see the things that are hidden from common eyes.

These talks are not for doctors. They are for farmers, bankers, merchants, business men—for anybody—everybody.

They are to be in simple language, language that all can understand. I shall have to use technical terms from time to time, but every such term will be explained, and then used.

Excusing now all but the earnest we will proceed with our first talk about :

*Cells.*

We have all seen what blood looks like. I mean human blood. Seen with the naked eye it is a red fluid. But if seen through a microscope it looks very different. It is a straw colored fluid in which are floating millions of little red bodies too small to be seen without the aid of a microscope. These little red bodies are called the red blood cells, or the red blood corpuscles. They are of uniform size and shape and when we know what one looks like we know what they all look like. Seen one way they look round as a ball, but when turned up on edge it is apparent that they are flattened on the two sides. Not only flattened but slightly depressed, as if they had been made out like little tea biscuits and then flattened and finally taken between the finger and thumb and slightly pinched.

But this is not the only kind of cell found in the blood. There is another kind of cell known as the white blood cell or white blood corpuscle or in more technical terms leucocyte. There are about five or six hundred times as many red cells as white. The white

cell is harder to describe than the red cell because it is more like a thing alive. There are as many as six different kinds of white cells in the blood of the healthy human being. The essential features of a white blood cell are that it consists of two portions; a central body called the nucleus and an enclosing substance called protoplasm. It may be likened to a hen egg in which the nucleus would be represented by the yolk and the protoplasm by the white. A white blood cell at rest is ordinarily nearly round, but its shape changes just as the shape of a bit of gelatin would change under pressure however slight, besides it is capable of moving and acting like the amoeba, next to be described.

\* \* \* \*

Just here we will leave the white blood cell and examine a drop of fresh water collected from a gutter or almost anywhere where it has stood some time. There will be a great number of living things seen in this drop of water, even if a low power microscope is used. Prominent among the living things will be seen an animal organism called the amoeba. The amoeba is not much larger than the white blood cell, and like the white blood cell consists of two portions, a nucleus and an outer portion, the protoplasm. Now give attention please for if you come to understand this you will have made a very decided advance in sanitary science. The amoeba we have said is an animal, a living creature, though a very small one. Living things must have food. The amoeba eats. But the way in which it eats is very curious. First let me tell you how it walks. It sticks a part of itself out and draws the rest up to it. The little part that it sends out is called a pseudopodium, which means a false foot. If it wants to go one direction it sends out a false foot on that side and if it wants to go another direction it sends out a false foot on that side. It can send out a pseudopodium from any part of its body. Note well that any portion of the amoeba can serve as body or can serve as foot as occasion requires. When, in its travels, it finds a particle of food to its liking it eats it as follows: It sends out a pseudopodium on each side of the food and brings them together beyond it so that the food is in the body. It digests it and then withdraws itself from the undigested residue. Note well again that the false feet have this time served as stomach. The amoeba can therefore use any portion of its substance for body, for feet, or for stomach as occasion requires.

The amoeba being a living thing, must die like other living things, and if it did not reproduce its kind the species would become extinct. It reproduces as follows: The nucleus divides in the protoplasm and then the protoplasm divides and there are two amoeba as the result. Of course each is smaller than the original

was, but it eats as we have seen and grows till each is as large as the original was before it divided.

\* \* \* \*

There is a small green plant in the water which looks to the naked eye like a thread of green silk. It is found in railroad ditches and similar places where water stands and often looks like a green scum on the water because the threads are so fine that they look like a mass rather than single threads. It is called spirogyra.

Under the microscope the spirogyra appears something like a chain of corn cobs would look strung together end to end. Each cob represents a single cell. It is noticed that every cell in the thread is as much like every other as a chain of cobs would be like each other.

The chain of cells grows longer by the individual cells dividing in the middle and making two cells, just as we have seen the amoeba do, only the two cells do not come entirely apart but remain growing together end to end. And this is why it appears as a long thread. But the individual cells can be broken apart as when joined together. The thing to note in this connection is that the entire thread is made up of single cells, and that these cells, though growing together, may grow just as well when broken apart.

\* \* \* \*

Now let us look into another something of interest. We will take a bit of baker's yeast and put it under the microscope. We will see that it too is made up of single cells. Yeast is as truly a plant as is a rose-bush or a rag weed. But it is another of the very small plants. As we have said when seen under the microscope it will be seen to be made up of single cells, and the cells are broken apart—they do not grow together like the cells of the spirogyra. But before we leave the yeast plant let us see how it reproduces. The yeast cell is egg shaped. It puts out a little bud on one side. The bud grows till it is nearly as large as the parent cell and then breaks off. In this way there are two cells where before there was only one.

\* \* \* \*

Let us pause now and take our bearings. We have seen that all living things, whether animal or vegetable, are made up of cells. In some animals the whole body consists of a single cell, as the amoeba, the malarial parasite. In some plants the whole body likewise consists of a single cell, as the yeast plant, the typhoid germ. But in all the higher animals and plants, the body is made up of a great number of cells joined together.

We have seen too that the essential features of a cell are nucleus,

and protoplasm. The red blood cell that we have examined has no nucleus it is true, but it once had and lost it. How it lost it is another story as Kipling would say. There is still another factor in the composition of cells, one that we have not mentioned. It is a covering or envelope. In some cells the envelope is very easily made out. In still others it appears somewhat doubtful, whether there is actually an envelope present. But in a general way it is concluded that all cells consist of:

- (a) Nucleus, which is the most important part.
- (b) Protoplasm, surrounding the nucleus as the white of an egg surrounds the yolk.
- (c) An apology for an envelope, plain in some cases and not so easily made out in others.

N. B.—That all plants, and all animals, however large, or however small, are made up of one or more cells.

We will now go a step further. Germs, or microbes, if you choose, are single celled vegetables like the yeast plant as the typhoid germ; or single celled animals like the amoeba, as the malarial parasite.

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In our next number we will tell you more about cells and germs.

H. B.

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The State Board of Health reports every week to the National Health Authorities at Washington the number of cases of communicable disease reported in the State. This includes such diseases as smallpox, diphtheria, tuberculosis, typhoid fever, hydrophobia, scarlet fever, etc. When yellow fever prevails it is reported to Washington daily.

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### LEPROSY.

Recently a case of leprosy was reported in Tampa by some one who did not sign his name. A Cuban it was said and he was in Ybor City. Not much howl was raised about it which was perfectly proper. The report after reaching the police of Tampa was forwarded to the office of the State Board of Health in Jacksonville, whereupon the Agent of the Board for Hillsboro County was directed to locate the leper and restrain him from promiscuous mingling with the general public.

This is in pleasing contrast with the treatment a poor unfortunate leper received at the hands of Maryland, New Jersey, and West Virginia a few days ago. It seems that one George Rossett,

a Syrian, afflicted with leprosy, turned up in Baltimore. He had money and wanted to go to New York, where there is a considerable colony of Syrians. That he wanted to get away was thoroughly satisfactory to Maryland, but to do so he must pass through New Jersey. To this New Jersey objected. And while they wrangled a bright thought struck the Maryland Health Officer. Acting upon it without delay he spirited Rossett over into West Virginia and left him the uninvited guest of Parkersburg. Now it came to pass that when the people of Parkersburg were aware that there was a leper in their midst they were very wroth and much afraid and wanted to stone him but dared not go near enough. Come let us counsel together they said and send this man away lest he turn our whole city into a city of lepers. And while they counselled behold a guard was set to watch the leper. And the leper slept on the grass and was without food and drink because the people were afraid to go near him.

\* \* \* \*

The incident of itself is an important side light thrown upon the states mentioned. Besides it caused some people to speak—some who are worthy of being heard.

Dr. A. H. Doty of New York commenting on the affair said: "I think it most inhuman the way this man has been treated. In what I say I speak also for Commissioner Darlington. What this leper wanted to do, probably, was to get to New York where there is a large colony of his people, the Syrians, his hope being that his countrymen would help him to be transported to his home. There is something wrong about his wanting to reach North Brothers Island. No lepers are there. Our telegram to Baltimore was that in New York leprosy was not a factor. Leprosy is one of those disorders medical science knows little about. Dealing with facts as we do and not with theories, we have learned that though leprosy occurs in parts of the United States, there are no reported instances of one case having caused others. There is a popular fear of it, but the facts as they have been observed do not warrant the fear. Tuberculosis is more communicable. Yet we have no sentiment behind a movement to segregate consumptives. Different State have different ideas of consumption. Here we regard it as dangerous and do all we can to prevent its spread." Dr. Doty further said: "Dr. Darlington and I are agreed that in New York leprosy is not a factor in State sanitation; we don't consider it at all further than to hold that in this country it is not a menace to the public. No, there is no prohibition against this poor outcast coming to New York."

About ten years ago New York lepers were isolated on North

Brothers Island. But in 1897 they were set free and since that time the disease has been ignored.

We know of a leper in Pensacola. He has been there several years and still there is only one. Dr. Pierpont, City Health Officer gives him personal attention, and we, ourselves have visited him with the Doctor. There is a leper colony in Louisiana and a number of lepers in the West. Probably most States in the Union have a few. Cuba is supplied with both lepers and leper accommodations.

The public should at least know this much about the disease:

That leprosy, as we know it at the present time, is very different from the leper stories we have heard.

That leprosy is not so easily transmitted from one individual to another as consumption is.

We hope and believe that the masses of the people of Florida are getting to be so well posted in general matters of health and disease, that they are able to discern danger, and know what to do in its presence.

H. B.

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Tuberculosis again leads in the number of communicable diseases for the month, there having been sixteen diagnoses made. Sixteen more victims—some of accident, some of carelessness, some of ignorance—all of a most dreadful malady.

#### HOG CHOLERA.

BY DR. CHARLES F. DAWSON,  
*Veterinarian State Board of Health.*

Inquiry made in the past by the State Board of Health into the cause of deaths in hogs in Florida have shown that hog cholera prevails here, as in other States. There are no statistics showing the extent to which the disease prevails here, but it is safe to say that more hogs die from this disease than from all others.

The meat from this animal is of such importance, especially to our rural population, that the State Health Officer deems it advisable to inform our people through this agency as to the best known methods of eradication, control and treatment.

That hog cholera is the most prevalent swine disease in the United States is generally accepted. The annual losses aggregate millions of dollars, and it is said that the losses from hog cholera prevent the glutting of the markets and increase the price of meats.

Hog cholera may occur anywhere at anytime. Some localities

and even some individuals are rarely or never troubled with it. It is true that where the hog is well cared for, furnished clean, dry pens and plenty of nutritious food, that losses from all causes are reduced to a minimum. Again, hogs that have no regular sleeping places, everything else being equal, would be less likely to be attacked than these more closely herded.

There are two kinds of hog cholera, or two types of the disease, the acute and the chronic forms. The acute form runs its course in a few days and sometimes destroys a large percentage of the drove, causing the owner to suspect someone is poisoning his hogs. In this type, the blood is affected and the disease is hemorrhagic in nature.

The chronic form of the disease is the one most prevalent, is not so severe in its manifestations, although the symptoms are more pronounced. Hence this form is the one best known to the breeder.

As symptoms, there will be dullness, shivering, loss of appetite, thirst, fever and redness of the skin inside the thigh and along the belly. In a few days, this redness assumes a purple or violet color. A rash appears, accompanied by spots of a dark red or black color reaching an inch in diameter. These skin symptoms will be most marked in light-colored animals and may be marked to a great extent in black-skinned hogs. The tongue is covered with a brownish fur. The animal is sore to the touch, grunts and screams when handled. It moves feebly, is unsteady in gait, and has a plaintive cry. Frequently, a loud, barking cough lasts throughout the disease. Vomiting is often present. When constipation persists, the outbreak is unusually fatal. Generally, the bowels loosen by the third day and the diarrhoea is profuse, black in color, and foul-smelling. The pulse becomes feeble, the cough frequent, painful and exhausting. The breathing is hurried and the weakness increases till the animal gets "down" and is unable to rise on its hind legs. Just before death, there are muscular jerkings, or sudden attempts to rise, accompanied by screams. In some cases, there are swellings, and lameness is a feature of the disease. The ears, snout or feet may become gangrenous and drop off.

The cause of hog cholera still remains in obscurity. Some ten or fifteen years ago, the U. S. Department of Agriculture published the results of investigations made through its Bureau of Animal Industry, in which it was claimed that the cause of hog cholera is a certain germ. This work was recognized as having settled a controversy of several years standing, as to the cause of hog cholera. A recent report, however, from the same branch of the Government service, admits that the cause of hog cholera is unknown. Elaborate experiments have, according to this report,

shown that the true germ of hog cholera is too small to be seen with our microscopes of to-day,—that the cause of the disease is a filterable virus, and that the formerly—accepted hog-cholera germ is always present in the bodies of hogs suffering from the disease,—that while it may have ill effects, it does not originate the disease.

For several years past, the Department of Agriculture has been experimenting with methods of producing an antitoxin for hog cholera, using the germ which it formerly claimed caused the disease. These efforts have not been successful, and will not likely be, till the true germ of the disease has been discovered.

When hogs are dying, and the owner is unable to identify the disease and wishes the aid of the State Board of Health, one of the sickest animals should be destroyed. Portions of the intestines showing ulcers on the inside, especially that part of the large intestine where the small intestine joins it, may be sent in alcohol, whiskey or brine to the State Health Officer, Jacksonville, Fla., with letter of notification, for investigation.

As treatment it is recommended that all healthy animals be removed from the infected pens and that these be either cleaned and disinfected by the liberal use of lime or abandoned entirely. The healthy animals as well as the sick ones should be freed of lice, as it is possible that hog cholera, like Texas fever, malaria, and yellow fever, is insect-borne. Those that die should be burned or buried in lime.

The following powder compound formulated by the Dept. of Agriculture some years ago is the best known remedy that has yet appeared. It should be fed not only to the sick, but to the healthy ones also, as it has prophylactic as well as curative properties. It is to be given in the slops or drinking water in tablespoonful doses to each hog weighing 200 pounds. Give a proportionate amount to hogs weighing less. If the animal is too sick to feed, dissolve the proper amount in water or milk and drench the animal, pouring small quantities into the mouth between the cheek and jaw teeth, while the hog is lying on its side. If the animal be held up between the legs, the medicine is liable to run down into the lungs and cause immediate death. The compound can be obtained from any druggist and should not cost over twenty-five cents per pound, in quantity. The formula is as follows:

Wood charcoal, 1 pound; sulphur, 1 pound; salt, 2 pounds; bicarbonate of soda, 2 pounds; sulphate of sodium, 1 pound; hyposulphite of sodium, 2 pounds; sulphide of antimony, 1 pound. Powder finely, and mix thoroughly.

## WEEDS AND MOSQUITOES AGAIN.

The following correspondence is self explanatory:

\_\_\_\_\_, Fla., August 22nd, 1906.

State Board of Health,  
Jacksonville, Fla.

GENTLEMEN:

I am just in receipt of No. 2, Florida Health Notes. I thoroughly enjoy reading the above publication. No doubt it will be productive of great good to the people at large.

I ask your indulgence in calling your attention to one article in particular signed H. B. I happen to be the Health Officer of one of the towns of Florida that has—naturally—the most prolific and wide spread growth of weeds and grass of any town in the State.

Any kind of an article written by any body, not to say one who is supposed to be an authority, depreciating the cutting of grass and weeds makes it just so much harder for the Sanitary Department of any town. If there was no other reason for keeping the weeds and grass down, than that they may harbor old tins and such like to hold water and afford a breeding place for mosquitoes, then every effort should be put forward by every Sanitarian to eliminate this evil. It is all we can do, and often more, to get the general public to observe the *simplest rules of Sanitation*. Don't, please don't lets have any thing in the HEALTH NOTES that might give any one a (if fancied) leg to stand on against Sanitation.

Respectfully,

\_\_\_\_\_, Jacksonville, Fla., Aug. 24, 1906.

Dr. \_\_\_\_\_,  
\_\_\_\_\_, Fla.

DEAR DOCTOR:

I beg to acknowledge and thank you for your favor of the 22nd instant. It is gratifying to know that you enjoy our little publication and predict for it a career of usefulness.

I want to thank you also for the criticism, which I assure you is received in the same spirit with which it was sent—that of friendly helpfulness.

But I regret that the article is in a measure misunderstood. It was certainly not meant to deprecate the destruction of weeds. The writer endeavored to state the relation that weeds, *per se*, bear to mosquitoes, that is, the influence that weeds exert upon the prevalence of mosquitoes in a given vicinity—that and nothing

more. I quote from the article itself: "We would not be misunderstood as advocating letting the weeds grow, but would destroy them because they are unsightly and show thriftlessness, and not because of some fancied connection with mosquitoes." Our endeavor is to tell the plain unvarnished truth about whatever we touch—the whole truth and nothing but the truth—as we see it. Our opinions may not always be infallible but they are honest. We are trying to educate the people along Sanitary lines, trying to free them from the fetters of ignorance and superstition by which they have so long been bound, and if we succeed in ever so slight a degree, they are going to begin inquiring into facts for themselves, and if any fallacy or erroneous teaching has been perpetrated upon them, they are going to discern it for themselves and will then begin to point out to us our own inconsistencies. It is our belief and experience that whenever people are brought to see a reason for a thing they will fall into line more readily than when called upon to follow blindly.

To be more specific, we advocate the destruction of weeds because they are unsightly, because they show thriftlessness, because the weed patch catches tin cans which hold water and in that way contributes to the hatching facilities of mosquitoes, because those who are continually surrounded by weeds lose the power to enjoy the beautiful, they come to take little or no interest in flowers, they do nothing to beautify their own homes or the community in which they live; it is this class of people that leave their fences in poor repairs, that take no active interest in walks, drives, parks, public buildings, (except to oppose such progressive movements); they maintain continual eye-sores to the detriment of the aesthetic taste of the public at large and in a hundred other ways are undesirable citizens. These are some of the real reasons for destroying weeds—as they appear to us.

Finally, Doctor, it is to be noted that we agree; we both believe and advocate that weeds should be destroyed, the only difference being that we at this end of the line believe that they are guilty of enough for their eternal condemnation without a single additional and imaginary sin being laid to their charge.

Very truly yours,

(Signed) HIRAM BYRD.

*First Assistant to State Health Officer.*

## NOTICE.

The next regular examination for Embalmer's License will be held at the office of the State Board of Health, Dyal-Upchurch Building, Jacksonville, Fla., on Wednesday, Oct. 24th, 1906. Those desiring to take the examination will please be on hand at that date.

A few requests for supplemental examinations have come to the State Board of Health but these cannot be given except at great cost of time and labor which can ill be spared and for this reason three examinations are held a year and those who fail to make one are respectfully requested to wait until the next examination.

The Board has also been requested to issue temporary licenses pending examination. This has also been found impracticable.

It is regretted that only four out of thirteen applicants passed the last examination. Not that the examination was so difficult but because sufficient time had not been spent in preparation. The Board insists upon and requires that those who are licensed in this State to take care of the dead shall be reasonably well equipped for it. Applicants will please be governed accordingly.

## FROM ABROAD.

It is gratifying to know that the FLORIDA HEALTH NOTES exerts influence not only in Florida and in the United States, but is extending its usefulness beyond the boundaries of this great country. The following extract of a letter received from Toronto Canada has the grateful acknowledgment and appreciation of the NOTES.

"DEAR DOCTOR PORTER: The mosquito pamphlet you sent to me has already been made to do a good turn. The summer residents on Toronto Island—a resort just across the Bay—have been plagued with mosquitoes this summer, and held a meeting to talk over the means of getting rid of the pests. I sent the Chairman of the committee your "Sanitary Leaflet No. 1 and when reading this morning's paper I noticed that almost word for word, your exterminating mosquito measures had been adopted by the Committee and will be—if possible—enforced. I thought that you would like to know about it."

The traveling public especially those who go to and from Havana to New York by water direct, will be interested in the

following notice or instructions to passengers which has been issued at Havana:

**NOTICE TO PASSENGERS TO NEW YORK VIA WARD LINE.**

Immune passengers intending to leave *Havana* for *New York* are requested to observe the following regulation of the *Doctor of the Marine Hospital Service* to avoid being sent to *Quarantine*. *The evidence which may be accepted as constituting immunity consists:*

- 1st. An attack of the diseased certified to or taken from some records, or
- 2nd. Ten years' residence in *Havana* or other *seaport* city or town where yellow fever was prevailing, prior to 1901.

*What Constitutes This Evidence.*

a. Children over ten years of age at date of October 1901, show continuous residence on the Island, a certificate of birth, a certificate of having attended school taken from the records of same school, and certificate from some reliable person certifying to continuous residence.

b. Adult Males—Evidence of birth in *Cuba*. Date of arrival taken from the records of the steamship company or captain of the ports records. Place of residence by showing receipts. Business engaged in. Official papers. Certificates of authorities given from the records in their office, not from witnesses. Certificates of responsible persons known to this office may be accepted or refused without any explanations. Certificates taken from records of business houses showing periods of continuous employment in such firms. Certificates showing membership in societies as taken from the records. "Evidence presented *must cover* at least ten years prior to 1901."

c. Females—The same evidence as above, together with certificates taken from the church records.

*Sworn Statements Will Not be Accepted.*

Applications for immune certificates must be made personally *three days before sailing*.

Two photographs are required for completion of registration.

Only persons who are registered in the books of this office, and whose papers have been accepted beforehand, *can obtain immune certificates upon the day of sailing*.

Photographs are not required of persons already registered.

Dr. R. P. Daniels has very kindly given us some thirty back numbers of Health Notes. We still lack several having files of old series complete. They were all destroyed in the great fire and we have never collected them since. Any friend who may have on hand some back numbers of this publication that can be spared will confer a favor by letting us have them. Thanks to Doctor Daniels.

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The Laboratory made during the month 65 examinations of blood for the widal reaction for typhoid fever. In making the widal test, it is not, as many people suppose, a search for the typhoid germ, but a test of the action of blood of typhoid patients on living typhoid germs grown in the laboratory.

If the typhoid bacillus, (that is the typhoid germ) is grown in the laboratory and examined with the microscope, the germs are seen to swim very actively. Now if the blood of a person suffering with typhoid fever is added to the solution they will stop swimming and come together in clumps. This is called the widal reaction. And that is why blood is examined in suspected typhoid fever—to see if it will make the germs cease to swim and form in clumps, for if it does, we know it is a case of typhoid fever.

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During the month of August the Laboratory of the State Board of Health made two hundred and twenty-five examinations. These include examinations for the tubercle bacillus, malarial parasite, the diphtheria bacillus, the widal reaction for typhoid fever, the eggs of hook worms, the negri bodies in suspected hydrophobia, and so on. Several cancer specimens have been examined. The examination of cancerous tissue, while not strictly a part of the laboratory work, is always done cheerfully, because we have the facilities and because, so far as we know, no one else in the State is equipped for this important work. Likewise, the examination of urine, when made for clinical purposes, with the view to aid the physician in more accurate diagnosis and thereby assist the patient to recovery, is always cheerfully made.

But, *and this is very important*, when private physicians, making life insurance examinations, turn the urinary part of the examination over to the Laboratory to have it done gratis, we think this is the place to draw the line, and regret very much to have to speak of it. We hope the Laboratory will not be placed in the embarrassing position of having to turn down such work in future, for aside from the injustice of having the State Board of Health imposed upon in this manner, the legitimate laboratory work has grown to such proportions that no time is left to further the moneyed interests of private individuals.

# FLORIDA HEALTH NOTES

## OFFICIAL BULLETIN

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### A SUGGESTION!

First impressions are said to be always the more lasting, and probably on that account the more pleasing or distasteful. A pretty flower garden, even before an unpretentious dwelling gives an air of comfort within, and a refined taste of the occupants in fittings and furnishings. Well kept lawns, hedges, fences—but fences are relics of feudal days, and should be abandoned—tastily arranged garden chairs and sofas, all bespeak a thrift and intelligent culture and give an anticipation of delightful company and choice conversation with the owners. In ninety nine times out of an hundred one makes no mistake by classing tasty environment with refined society, nor will disappointment await those who pass from beautifully kept grounds across the threshhold of the home located thereon. People are judged by the society they keep and environment is an association with the unspeaking world which tells the tale of cultured minds as plainly and with as great impressiveness as that of mingling throng or intimate acquaintance. Education, innate gentleness of character and general trend of

mental habits and disposition is shown in what the French are wont to style the "tout ensemble" of every day life and is indicated by daily custom and as forcibly as by eloquent speech or choice metaphors of writing.

These thoughts, spoken aloud—a habit which the *NOTES* finds itself frequently doing—prompts it to rise and remark, that the application of these views could be profitably made to the surroundings of many "getting off places" along the network of steel rails which year by year more closely connect the different parts of the State. Many of the railroad stations are so barren of anything inviting, that no wonder is it that the stranger tourist or invalid suffers a spasm of depression when alighting from a comfortable Pullman and is greeted by the sight of a dilapidated platform, a building whose first coat of paint has never been renewed and the ground round about strewn with sucked dry sugar cane with the razor back hog rooting everywhere. Is this a welcome greeting, and such as to inspire hope of a pleasant visit or profitable resting place for health? Station-masters can do so much to create favorable impressions of their localities if a little attention is paid in simple beautifying of attached grounds: a few rose bushes, palms, and tropical plants which are novel to those from the extreme north gives a homelike appearance to the locality and an unspoken welcome. A station agent whose thoughts are inspired by nature's love in his soul, will give outward expression of that which is within him, by tidying up his place of business and what spare moments he may have, in brightening up surroundings with flowers and ornamental plants. Doing this he rebukes the company for which he works in its neglect of the station house platforms and other needed but disregarded conveniences. The *NOTES* asks its friends everywhere in the State to keep an eye on the railroad stations and to stir up the agents to make them pretty and attractive as first landing places for tourists or invalids.

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Elsewhere in this number is an article on flies. The *NOTES* expects to be criticised for this, and admits in advance that there is some justice in the criticism. The article comes too near hinting at the truth. But it takes strong language to even be passably true about the disgusting filthiness of the house fly. The "Notes" accepts the anticipated rebukes, and pleads guilty of trespassing upon the unmentionable. Its apology is that the said unmentionable ought to be trespassed upon, and its hope is that the trespassing will enlist a few more in the crusade against this filthy disseminator of disease.

## SIMPLE SCIENCE TALKS.

Thomas Carlyle said that the most that the college did for him was to teach him to read in the various languages. It is to teach you to read in the language of science that these talks are given.

\* \* \* \*

Please note now that I have tried very hard to keep you from thinking cells and plants and germs are entirely different entities. Take the typhoid bacillus for instance: It is primarily a plant, just as any ordinary vegetable is. But it is one of the unicellular plants, that is a plant composed of a single cell. It is not only a plant and a cell but it is a germ, the germ of typhoid fever.

The object of this talk is to point out that germs, or microbes, are not an invisible, tasteless, odorless, gas, and capable of being inhaled in the most obscure manner and in the most unexpected places and give rise to some indefinite "disease," but on the other hand that germs, or microbes, are vegetable or animal organisms, living things, that grow and reproduce their kind, and die—small it is true, too small to be seen with the naked eye, and composed of a single cell, whereas the higher animals and plants are composed of many cells.

Recapitulation: We have discussed cells to the extent of seeing that all animals and all plants, however large or however small, are made up of one or more cells. And we have seen that all animals may be conveniently arranged into two groups—those made up of a single cell, and those made up of many cells. Likewise all plants are conveniently grouped in a similar manner.

\* \* \* \*

We have also seen that the essential parts of a cell are (a) an apology for an envelope, (b) protoplasm surrounding (c) nucleus. Or, in order of importance, (a) nucleus corresponding to the yolk of an egg, (b) protoplasm corresponding to the white, and (c) an apology for an envelope or covering which corresponds to the shell. But it is a rather unsafe figure to use the egg to illustrate with, for it is apt to lead us to think that all cells are alike or nearly so. But if we remember that eggs are very different from each other it may help to set us right. We all know what hen-eggs look like. The eggs of all fowls agree having approximately the same shape, though differing much in size and color. The ostrich's is the largest egg among fowls, weighing as much perhaps as two dozen hen eggs. While the humming bird's egg is so small and delicate that it is almost impossible to take it in the hand without breaking it. The reptiles usually lay eggs with a white leathery envelope instead of a brittle

shell like the eggs of fowls. The turtle egg is nearly round in addition. The egg of a shark is shaped almost like a pillow and has a long string-like appendage coming off from every corner. Of course it is not so large as a pillow, being only two or three inches long. And it has a black leathery covering. The eggs of toads are tiny little black bodies covered with a gelatin-like substance and strung together like beads. The eggs of mosquitoes are somewhat spindle-shaped only the ends are very blunt. I have digressed on the subject of eggs to show that there is a very wide variation, though the essential features are retained.

\* \* \* \*

Returning now to the cell. It is found to vary even more in size, shape, and other characteristics than the egg does. For the present we will confine ourselves to that class of plants that is composed of a single cell, leaving the many celled plants and animals for some future discussion. The one celled plants are practically all too small to be seen without the aid of a microscope. But seen under the microscope they conform largely to three shapes. In fact they are so small they are not capable of having many shapes. The smallest conceivable particle of matter is necessarily round. A very large portion of the one-celled plants are round. Such plants are called cocci (pronounced *coksi*) the singular of which is a coccus. So when you see the word *pneumonococcus*, the very name itself tells you that it is the germ of pneumonia and that if seen under the microscope it would appear to be round. Sometimes the round forms are seen to arrange themselves in pairs. When they do they are called diplococci, (singular diplococcus.) And sometimes they arrange themselves in chains, like a string of beads. Then they are called streptococci, (singular streptococcus.) An example of this is the germ causing erysipelas, and is known as the streptococcus of erysipelas. Again the round forms may arrange themselves in irregular masses, not unlike a bunch of grapes. In this case they are called staphylococci, singular staphylococcus. Now if you understand what we have just gone over, I will give you a new word and see what you can make out of it. The word will be: *diplococcus meningitis*. You will at once recognize that this is a germ, that it is round, hence the name coccus, that it arranges itself in pairs hence the *diplo*-portion of the name, and that it is the cause of meningitis.

\* \* \* \*

There is another class of plants, not round like the cocci, but rod shaped. They are called bacilli, (pronounced basilli) singular bacillus. The germ of tuberculosis is a good example of this class.

Likewise the typhoid bacillus, the butter bacillus, the grass bacillus, and many others.

\* \* \* \*

And still a third class of plants shaped like a comma, (,) and when seen several together, end to end, they look like a cork screw. Because of the spiral arrangement, they are called spirilla, singular spirillum. The spirillum of cholera is a good example. H. B.

(To be continued)

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### EXCAVATING IN SUMMER.

The State Board of Health of Florida may point with pardonable pride to the fact that it has always moved along the most approved lines of sanitation, and, in the light of the most recent knowledge of the day, has never needlessly hampered any commercial enterprise or any developmental activity. It may also point out the fact that it has always been in the foreground in working out the problems of practical sanitation. On the 9th of last November a convention of the several Southern States met in Chattanooga to discuss quarantine measures and formulate a more practical system. That convention representing the Governors, State Boards of Health, Representatives of all the leading cities, Boards of Trade, and all the more important organizations of the South, after mature deliberation passed resolutions declaring themselves in favor of Federal control of maritime quarantine. That resolution might have been worded to read: "In favor of the quarantine system of the State of Florida." It would have meant the same thing. We have had Federal control of our maritime quarantine for five years. And at that convention Florida stood in the lime light, as being the only Southern State that has what they all need, what they all want, what they passed resolutions favoring, and what they will all get sooner or later.

It has been the good fortune of the State Board of Health to thus anticipate the needs of the State and the country at large, but it is more specifically its function to anticipate the needs of our own people, to educate and counsel our own citizens, to persuade when persuasion will serve, to restrain where restraint is needed, and to coerce when the exigency demands.

Several weeks ago the Board of Public Works of Jacksonville began laying a sewer on Main Street, right in the heart of the city, in the middle of summer and on one of the busiest thoroughfares. At times the street has been almost blockaded by the excavations

and work. At first a good deal of apprehension was felt among certain people concerning it, for we have been taught that it is likely to cause "sickness" to upturn the earth in summer, and formerly this practice was not permitted. But in the light of our present knowledge, there is no danger of disease from excavations in summer *per se*. It is true such excavations may be made as will hold water and become breeding places for mosquitoes and in that way become a menace to the public health. But as this was not the case in the present instance, the State Health Officer refused to interfere with the work, because he did not believe there was any danger in allowing it to be done. And the results have justified his action. The work has been going on for several weeks and still continues, and yet not a single case of sickness has been reported that is chargeable to the excavations.

Likewise complaint was filed with the Board against allowing the filling in that was done at South Jacksonville recently. The State Health Officer, believing it was not dangerous to the public health, so advised the parties complaining and the fears subsided and the matter dropped. But the public may be assured that when the State Health Officer scents danger, he will hang out the red light.

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#### YELLOW FEVER SITUATION IN CUBA.

The last case of yellow fever reported in Cuba during its prevalence there in the fall and winter of 1905, 1906, was February 11th.

Since that date twelve cases have been reported in the island—two in May, four in June, and six in August.

It is a significant fact that the mortality among these twelve cases have been 25 per cent.

The significance is enhanced by the fact that dengue (?) has prevailed all along. For instance: from September 2nd to September 8th, inclusive, there were 11 suspects of yellow fever and 7 cases of dengue.

Dr. VonEsdorf, the U. S. M. H., representative in Havana, while visiting Las Animas Hospital on the 12th of September, found a case of yellow fever. He was then informed that the case had been diagnosed on the 10th, but he had had no notice of it though he had been in daily communication with the health authorities, and yet the claim is made for the utmost frankness in reporting the health conditions of the Island.

WITH profound sorrow, and a sense of personal as well as official bereavement, the State Health Officer of Florida announces to the Medical Profession of the State, Municipal Boards of Health, Boards of Health of other States, and friends generally, the death of Dr. Eduardo Andrade, Bacteriologist of the State Board of Health of Florida, which sad event occurred at eight-thirty o'clock this morning in New York City. Words cannot convey nor can human tongue express the grief which the State Board of Health feels in the loss of its talented Associate, who although young in years—but thirty-three—nevertheless possessed the mental qualities of an accomplished and polished scholar and scientist, and typified in every act of life all the attributes of a Christian gentleman.

Office State Board of Health of Florida,  
Jacksonville, Florida, September 20th, 1906.

## HYDROPHOBIA.

To go mad, to have rabies, to be rabid, and to have hydrophobia, are only different ways of saying the same thing.

One of the first and most important things to learn about the hydrophobia is how it is acquired. It is one of the many diseases caused by germs. But the germ is not well known if indeed known at all. We are thoroughly familiar with some disease germs, as the diphtheria germ—can grow it in the Laboratory, produce diphtheria with it, and cure the diphtheria so produced. On the other hand, the yellow fever germ has never yet been isolated, though much time, money and talent have been used in the effort. Between the two, diphtheria germs well known on the one hand, and yellow fever germs entirely unknown on the other, we have different degrees of knowledge of various microbes. The germ of hydrophobia is not well known. But we have undertaken to enquire into how the disease is acquired. Some animal that has hydrophobia, bites some other animal, or human being that doesn't have it, and gives it to him. That's the whole story. We get it that way and only that way. If you have been made to believe that hot weather, dog muzzles, lack of water, or anything else, except the bite of a mad animal, can possibly give hydrophobia, then to that extent you have been led astray, and you had better get back on the right track. Every housewife knows how to make yeast cakes. And she knows just as well that she can't make a yeast cake unless she has some yeast. It makes no difference how favorable everything else is for the yeast cake making, it can't be made without some ready made yeast to start with. The same is true of hydrophobia—a dog may be forced to wear a muzzle, and die of heat and thirst, but he will never develop hydrophobia unless the hydrophobia germ is introduced, by the bite of some animal with the disease, just as the yeast must be introduced to make a new cake.

*Incubation Period.*

When yeast cakes are made, they have to be left to stand for a certain length of time, waiting to get "leavened," that is waiting for the yeast plant, that has been thoroughly mixed with it to grow.

When a child is exposed to diphtheria, and gets the diphtheria germs into its throat, it doesn't come down with diphtheria at once but must wait a few days till the germs can increase in numbers. But after a few days they have increased so rapidly that there are enough of them present to make the child sick, that is to produce diphtheria.

Likewise when one is exposed to smallpox, he doesn't develop

smallpox at once but must wait from seven to twenty-one days before the disease shows up. When an individual that has not had yellow fever is bitten by an infected mosquito, he does not develop yellow fever immediately, but remains in perfect health from two to five days before he comes down with the disease. The time that elapses after one becomes infected with a communicable disease till he comes down with the attack is technically called the period of incubation. Thus in smallpox the period of incubation is seven to twenty-one days. In yellow fever the incubation period is two to five days. In hydrophobia the period of incubation is the time that elapses from the date the person or animal is bitten by a mad animal till the disease develops. Among the lower animals, the period of incubation is twelve to thirty days, usually about eighteen. In man it is longer, being thirty to forty days—sometimes as long as three months. The period of incubation in hydrophobia varies greatly.

*Susceptibility and Immunity.*

When a man or animal is capable of contracting a certain disease, we say he is susceptible to that disease. Thus human beings are susceptible to typhoid fever because they contract this disease very readily. But dogs do not have typhoid—that is they are not susceptible to the disease. Hogs are susceptible to hog cholera, but neither man nor any other known animal will contract hog cholera. Both man and all our domestic animals are susceptible to hydrophobia.

Immunity, is that state in which a person will not contract a disease that he is ordinarily susceptible to. For instance, one who has had smallpox is immune because he will not have it a second time. The same thing is true of measles, mumps, whooping cough, yellow fever, and some other diseases. To say it another way, a single attack of any of these diseases produces immunity against subsequent attacks. For all practical purposes this is true, but it is not true in the absolute for occasionally an individual may have some of these diseases a second time. You perhaps know of some one who has had measles twice. But those instances are rare—so rare that we say when one has had smallpox he will not have it again.

In some diseases we can produce immunity without actually having the disease. We can produce immunity against smallpox, for example, by vaccination. The immunity thus produced is as complete and permanent as that produced by the disease itself. We can produce immunity against diphtheria by the use of antitoxin. The immunity thus produced doesn't last long. Indeed diphtheria

itself produces only a temporary immunity—and after a time the patient is susceptible to the disease again.

The Pasteur treatment consists of rendering the patient immune to hydrophobia. Remembering that the incubation period in hydrophobia in the human being is usually 30 to 40 days, it is clear that we have that much time in which to render the patient immune, from the time he is bitten. If during the incubation period we can render him immune, of course he will not develop the disease.

\* \* \* \*

But the main point of this article is what to do when an animal in the community is suspected of being mad. The first and most important thing is to shut the dog or other animal up so that he can bite no one. Next it is imperative to know whether he is actually mad. If he has already bitten some one this is especially imperative.

It used to be that the way to tell whether an animal was mad was by the symptoms, which often left us in doubt, and by rabbit inoculations which took several days and frequently failed then. But lately there has been a Laboratory method perfected by which it can be told with the microscope in a few hours. The Laboratory of the State Board of Health in Jacksonville, makes these examinations. So when a dog or other animal is suspected of being mad, cut his head off, pack it in ice and ship to the Laboratory of the State Board of Health, at once. Do not fail to pack the head in ice, for if it reaches the Laboratory in a state of putrefaction, the examination cannot be made. The examination will be made with all possible despatch, and will cost the parties sending it nothing except the express on the package. N. B. Do not bruise or crush the head. Cut it off and send it intact.

If the animal is found to be mad, send the party bitten to some Pasteur Institute. Do so at once. Time lost may mean a life lost. If the animal is not mad the wound will heal as any other. There is a popular belief that if a dog bites an individual and afterwards goes mad, that the individual will likewise go mad. Of course this is not true.

There is no Pasteur Institute in Florida. The nearest one is in Atlanta. The legislature of Georgia has authorized the State Board of Health to establish one of its own. It is a much needed adjunct to the State Board of Health of Florida, and it is hoped that in the not very distant future, one may be added.

H. B.

## FLIES.

(Apologies to Eugene Field.)

See the fly.

It has not always been a fly—it used to be a maggot.

The children of flies are maggots till they get grown, then they are flies.

Maggots live in manure and eat manure to grow up and be flies. They rather be flies than maggots.

Flies eat manure too.

But they eat a lot of other things that we wouldn't eat.

They eat the stuff a man coughs up when he has consumption. That is what they go to the spittoon for.

Then the fly specks have the germs of consumption in them.

When flies come out of the spittoons they rub their fore feet together and then rub them on their head. That is the way they wash.

Nice clean flies.

Have one in your coffee?

Flies like open closets because that is where they lunch.

But they will leave the privy any time to get in your mouth when taking your mid-day nap.

When you shoo them away from typhoid stools they get on baby's bottle.

Then we wonder how baby got typhoid fever.

Flies are opposed to sewers.

They think it is a trick to starve them out.

Then they have to live on such scrappings as they can get—the vomit of drunk men, sores on dogs and horses, and the cold meat in the pantry that is saved for supper.

Flies have one eternal enemy—the housewife.

What would she think if you were to screen your house and help her to get rid of them?

## WHAT HAS BEEN DONE TO EXTERMINATE THE MOSQUITO.

BY CHARLES A. SELDEN.

Within a circle having a radius of twelve miles, with the New York City Hall as its center, there lives to-day a total population of more than 4,000,000 people. Within this circle there are approximately 93 square miles water surface, 300 square miles of upland and 62 square miles, 40,000 acres, of marsh land. Twenty per cent of the entire land face, therefore, consists of marshes. The present average density of population on the uplands is about 13,500 persons per square mile, and this density is increasing rapidly, the average increase of population within the area being close to one third every ten years, or in other words, the present decade will make an increase of about 1,250,000 souls. As the density of population on the uplands bordering these marshes increases, the nuisance of the mosquito becomes more and more intolerable. This is, in part, due to the ever-increasing pollution of the marshes by the wastes from this enormous population and the attendant liability to infection from the increasing number of diseased persons. The presence of mosquitoes in great numbers with their attendant malaria is a very serious matter, not because of the immediate effect of their bite, but because of the inevitable lowering of the vitality of the victim, which leaves him subject to infection by other forms of disease. No more powerful argument than this can possibly be needed to impress upon us the fact that we should be up and doing in improving our marsh lands, and removing this serious nuisance from our midst.

To offset this danger an elaborate system of coast defence, with ditches in place of breastworks and petroleum syringes instead of guns, is being gradually but effectively developed as a protection against this common enemy, the mosquito. It is a work that the public knows little about, which is unfortunate, for it is something in which all can co-operate. Anybody who sees to it that no water is left standing about his premises after a rainfall becomes, in a small way, a crusader against the insect that is, at least, a cause of great physical discomfort and may be a carrier of disease.

But the chief work of defense is that which was begun in New York City and on the salt marshes of New Jersey coast six years ago and which has been carried on persistently with such excellent results that Maryland and Pennsylvania have now taken it up and it is only a matter of time when all the infected marsh areas on the

Atlantic coast will be rid of their mosquito breeding pools and lagoons.

Although mosquito extermination will never be an exact science, the theory of it, which, by the way, is one of the few things upon which all the entomologists agree, is remarkably simple. It is based on the undisputed fundamental fact that mosquitoes breed only in standing water. Thus water contained in an old tin carelessly left in the back yard may be a generating place for the mosquito just as if it were measured in acres spread over a swamp. It is all the same to the mosquito. So throwing away the can and draining the swamp are both good works, differing in extent but not in kind.

Considering the work in its largest aspect as something that must be undertaken by State or municipal governments, the task of digging ditches is of the first importance. It is also the most effective measure. The secondary method, for ponds and small lakes that it is not desirable or possible to drain, is what is known as petrolizing. This consists of applying petroleum to the water surface every fortnight, a half pint of oil to a water area having a twenty foot diameter being about the right proportion. The oil does not poison the young mosquito which, in its larval state, lives just beneath the surface of the water, but kills it by a simple mechanical process. The larvae are provided with small projecting tubes which, at minute intervals, they thrust above the surface for air. The oil plugs these tubes, makes breathing impossible and the larvae are destroyed before they reach the winged stage of their growth. A third method is to stock the ponds with silver fish which feed on the larvae.

That is all there is to the theory of mosquito extermination. Its practical application has developed no unforeseen difficulties and requires only a little hard work and the expenditure of some money, but in amounts that are trifling when compared with the results.

So far the State of New Jersey has led in the work of extermination, but the City of New York is a beneficiary not only of its own efforts but to those of the State across the river for Manhattan Island is well within the radius infested by the mosquitoes which breed on the notorious Hackensack meadows.

The infested section of New Jersey covers two million acres of salt marsh, or one-third of the entire area of the State, and it contains eighty-five per cent. of the total population. Jersey has tackled this big problem in a broad gauge way, and appropriated \$350,000 to be expended at the rate of \$50,000 a year for seven years in the work of draining the marshes. This appropriation is made on a percentage of aid basis; that is, the coast towns that are able will supplement the State funds with local appropriations,

so that the total amount available will be much greater than \$350,000. This money will be available next November when the work of ditching and draining will be begun under the supervision of Dr. John B. Smith, of New Brunswick, the State Entomologist. He is confident that the money appropriated, together with what the municipalities will contribute, will be sufficient to do the work. The calculations are based on what has been done within the last year on the Newark Meadows and, to a less extent, in the vicinity of Elizabeth. The Newark and Elizabeth Meadows, so called, are merely parts of the great swamp which lies on both sides of the Hackensack River from its mouth at Newark Bay to the New York State line.

The City of Newark appropriated \$5,000 to experiment with. That paid for the drainage of 3,500 acres of salt marsh by the means of narrow ditches, 150 feet apart running to tide water. These ditches, while they do not reclaim the land to the extent of making it fit for cultivation, do answer their purpose by getting rid of all stagnant water within a few days. As it takes a week for larvae to develop into mosquitoes. The breeding within the ditched area is stopped and the pest, so far as Newark is concerned, has been materially lessened. This same method of ditching is being followed throughout the State.

Dr. Alvah H. Doty of the New York City Health Department is doing the same thing on Staten Island where there are sixteen miles of salt marsh on the south shore. Dr. Doty has received this year an appropriation of \$17,000 from the City of New York for his work.

The process of ditching on Staten Island was begun on the south shore last November; since then there have been sixty men constantly at work. They have dug, all told, one hundred and sixty miles of ditches, thereby draining thirteen square miles of swamp land. The work has not only freed that area from breeding places but, as an incidental result, it has made the marsh passable for teams so that salt hay, worth ten dollars a ton, can be cut this summer on the entire section. This swamp on the south shore of Staten Island, which has been finished, practically, extends from Fort Wadsworth to a point two miles below Midland Beach. Among the communities already getting the benefit of the work are those of Stapleton, Clifton, Rosebank, Arrochar and New Dorp.

Drainage of the swamp lands on the north shore of the island is now under way.

On Long Island the physical and geographic conditions are the same as those that prevail along the Jersey coast and on Staten Island, but the work is being done principally in a series of private

enterprises undertaken by New York men who have their country estates along the south shore of Long Island Sound.

As a suggestion of what is being done all over Long Island the following extract from a recent report on mosquito extermination by William W. Chambers, is of interest:

"On the west shore of Cold Spring Harbor, Mr. L. C. Tiffany and Mr. Henry W. de Forest took the most active interest in the work. Mr. Tiffany's lily ponds were a source of trouble for the greater part of the summer, and had to be dried from time to time. Mr. de Forest succeeded in keeping his place free from breeding places. The Biological Laboratory of the Brooklyn Institute of Arts and Sciences oiled the marshes at the head of the Harbor during July and the greater part of August with favorable results.

"On the eastern side, some very effective work was done by Mr. Robert W. de Forest. What heretofore had been probably one of the most dangerous swamps in the territory covered by the Association was successfully ditched and its breeding places destroyed. The pond, also, formerly the source from which thousands of anopheles emerged into Cold Spring village, has been made comparatively safe by removing the floating vegetation and carefully trimming the edges.

"The properties of Dr. W. James and Mr. Walter Jennings were kept free from breeding through the summer, with the exception of a few trees and a small number of minor receptacles."

\* \* \* \*

#### *Mosquito Brief.*

1. There are over one hundred *species* of *Mosquitoes* in the United States.
2. Mosquitoes breed *only in water*. They breed in any kind of quiet water unstocked with destroying fish.
3. Mosquitoes generally require from *one to three weeks to develop* from eggs to winged insects in warm weather; longer in cold weather. Some female mosquitoes three days old lay eggs, the average age is greater. Some species lay as many as three or four hundred eggs at once; some lay them singly. Mosquitoes may live several months, (as shown by hibernation and otherwise,) but probably few live over a month.
4. Mosquitoes *do not breed in grass*, but rank growths of weeds or grass may conceal small breeding puddles, and form a favorite harboring place for adults. The Pitcher Plants hold sufficient water to breed a rare and small species.

5. Different species of mosquitoes have as well defined habits as different kinds of birds, flies, etc. Some are *domestic?* *some wild, some migratory.*

6. Most *domestic mosquitoes breed* in fresh water, fly short distances and habitually enter houses.

7. Most *migratory mosquitoes breed* in salt and brackish marsh areas, fly long distances. They are not conveyers of malaria.

8. Rigid tests, both direct and eliminative, have proved that certain species of mosquitoes are the *only known natural means of transmitting malaria and yellow fever.* Some other diseases are known to be conveyed by mosquitoes.

9. Of the domestic varieties, the dangerous *malarial mosquitoes* (several species of the genus *Anopheles*) are among the most generally distributed. They seem never to travel far, only a few hundred yards.

10. A most common and dangerous domestic mosquito in the south and in the tropics is *Stegomyia fasciata*, which is *the natural conveyer of yellow fever.*

11. Mosquitoes are known to *bite more than once*, as can be seen by observation and is proved by the transmission of disease from an infected person to a new subject.

12. Mosquitoes are a *needless and dangerous pest.* Their propagation can be largely prevented by such methods as drainage or filling of wet areas; removal, emptying or screening of water receptacles; spraying standing water with oil where other remedies are impracticable. Attention should be paid to cisterns, house-vases, cess-pools, road basins, sewers, watering troughs, roof gutters, old tin cans, holes in trees, marshes, swamps and puddles. As malarial mosquitoes may be bred in clear springs, the edges of such places should be kept clean and they should be stocked with small fish. The breeding and protection of insectivorous birds, such as swallows and martins, should be encouraged. Thorough screening of houses and cisterns is necessary to prevent the spread of malaria or yellow fever. The continued breeding of any kind of mosquitoes, with the attendant menace to public comfort and to the life and health of man and beast, is therefore the result of ignorance or neglect.—Broadway Magazine, August.

# FLORIDA HEALTH NOTES

## OFFICIAL BULLETIN

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THE STATE BOARD OF HEALTH

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Vol. 1.

NOVEMBER, 1906

New Series No. 5

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### NOW! IS THE ACCEPTED TIME.

In last month's issue, the NOTES sought to point out the depressing effect which shabbily kept railroad station-houses, with their environments, have upon newly arrived strangers—tourists or invalids—and made a plea for the beautiful in nature by begging for prettily kept flower plats around and about station-houses, as aiding materially in creating a favorable impression, and giving an unspeakable welcome. Any one traveling along the Pennsylvania and Lackawanna railroads cannot but be impressed with the closely cut lawns with ornamental shrubbery, which characterizes so markedly the stopping points in the sections of the country through which these railroads run, and there is no reason why the Florida railroads should not maintain the same air of refined atmosphere about their property. In a few sections of the State an effort is being made to do this, but in other portions the NOTES regret to be compelled to say that the utmost indifference to appearances prevails and the stations are anything but inviting "resting off" places. However, this subject has already been touched upon and dis-

cussed, and the request gone forth, that the people will jog the indifferent Agent to action, and the Agent in turn will "pester" the Company until repairs are made, more paint given and an attempt is tried at least, to make these alighting places more attractive to the eye.

Municipal governments and town authorities can do very much towards beautifying or at least making their home places attractive, by paying more attention to smooth, clean and easy going walkways and driveways. Gutters cleared of trash and paper litter; streets paved and free of holes; parks, or those spaces in the center of a town, or more properly speaking "breathing places" usually enclosed in small settlements for lounging and recreation, unobstructed by weeds, grass neatly cut, lawn seats or benches tastily painted and in good repair, all bear witness to the thrift of a people having a regard for their reputation as well as comfort, and which is seen and felt by every visitor.

The NOTES wishes the people of Florida to go just a step further in reputation building for their towns and themselves, by having a care for their own homes and premises, their lawns and flower gardens. In a few weeks the stranger who Floridians delight to greet and welcome within our gates, will be with us again, and let us therefore give the last winter's guest as well as the bran new arrival a pleasing and attractive picture to look upon, when he drives from the station to his hotel or boarding-house. Let the first letter to the home frozen North tell of the warmth of welcome and pleasing impressions of Florida and Florida's towns.

By advocating an ornamentation of the environments of public utilities, private premises and municipal properties, the NOTES does not wish to be understood as advising a taste for the esthetic to the exclusion of attention to sanitary measures which are always intended to promote good health both in the individual and the public generally; in fact, people or municipalities who are inclined to thrifty ways and cleanly living are always exponents of sanitary teaching and moral and physical hygiene. These suggestions are thrown out by the NOTES as embracing a line of thought which considered thoughtfully now may contribute very materially to the reputation of the State hereafter.

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Little drops of refuse,  
 Little grains of dope,  
 Make the boneless chicken  
 And the scented soap.  
 —Exchange.

## YELLOW FEVER SITUATION IN CUBA.

The medical officer in charge of the Government Quarantine Service at Havana in reporting on conditions for the week ending Oct. 30, says:

"During the week there occurred in Havana 4 cases of yellow fever and one death. The death was a case carried over from the previous week.

These new cases occurred in various parts of the city and their source of infection could not be traced to any particular focus. The sanitary work is still continued by the Board of Health.

On October 28, a case was reported in Havana which came from an interior town named Palos. This man, a Spaniard had been living in Palos and arrived in Havana sick. In fact, in the 2d day of the disease. He stayed in the city 24 hours before entering the hospital.

On October 13 a case occurred in San Nicolas and was taken to Guines and reported as a case from Guines. From Guines to San Nicolas is about 2 miles and from Guines to Palos about 5 miles so that it would appear that the towns about Guines must be considered infected. It would also appear that mild cases must have gone from one town to the other as the distance is too great for mosquitoes to fly."

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## EMBALMERS IN FLORIDA.

At the Embalmers' Examination held in Jacksonville, October 24th, there were four applications, two of which passed.

The Board of Examiners consists of the State Health Officer, who is ex-officio chairman, Bacteriologist of the State Board of Health, and president of the State Funeral Directors' Association.

On this occasion the State Health Officer was represented by the First Assistant to the State Health Officer, as Acting Chairman; and the Bacteriologist was represented by the Assistant Bacteriologist.

The subjects covered by the examination were: anatomy, bacteriology, and technic.

The examination in anatomy was confined to the blood, the veins, the arteries, the lymphatics, and the cavities. While this is only a small part of anatomy, still it is that part that directly concerns the embalmer, and applicants are expected to know that much.

The bacteriological examination was confined to such general subjects as enable the embalmer to understand why he does thus

and so. Little technical knowledge is required but applicants must have a fair general knowledge of the subject.

The examination in technic is quite thorough, this part of it being conducted by the president of the State Funeral Directors' Association.

Transportation companies in this state do not accept bodies from individuals who do not hold a license, hence all undertakers must be duly licensed.

All embalmer's licenses issued in this state are issued upon examination, as above outlined.

Prospective applicants are informed that they must be reasonably well equipped to ply their craft before they can secure a license.

### BULL BATS.

Mr. W. B. Hinton, of Miami has been a life-long lover of birds and student of their habits. He is a charming conversationalist, and when discussing his favorite theme is always at his best. I am indebted to him for most of the following information concerning the bull bat.

This bird, with which we are all familiar, has no fewer than four common names—bull-bat, night hawk, night jar, and goat sucker. Its scientific name is *Chordeiles Virginianus*.

The bull bat feeds in the late afternoon and early evening, sometimes also on cloudy days. His food is exclusively insects, which are always taken on the wing. He flies rather high in the early part of his feeding hours, but gradually descends as night approaches. The bull bat has a short bill, but very wide mouth, and growing round the mouth is a rim of bristles, forming a sort of funnel, which serves to guide insects into the mouth during rapid flight.

When bull bats are feeding every little while they flop their wings two or three times in rapid succession, and at the same time utter a sharp sound, while at intervals further apart they seem to start down with fearful rapidity, and coming almost to the earth shoot as rapidly upward again into the air, at the same time making a jarring sound, sometimes like the bellowing of a bull—indeed it is from this that the name bull bat is given. Only the males do this, and they only at the courting season.

The bull bat makes a nest on the ground in an open place, but choosing a gray spot where the colors are so like his own gray that it is almost impossible to see the bird or find the nest notwithstanding the fact that it is concealed only by its colors. They lay two eggs.

As before said, bull bats feed during the late afternoon. At this time mosquitoes are taking flight. Those that have just hatched

are mating. They mate in the open. Those that have mated are going to and fro in the earth to see what they can devour. Those that have devoured other peoples substance with riotous living are seeking a place to deposit eggs. The whole mosquito world is busy, and the bull bats taking advantage of the commotion, feed to the limit of their desires. This is not a simple fancy but a proven fact. Bull bats have been killed and the contents of the crop examined and found to be almost exclusively mosquitoes.

There is no reason why the bull bat should ever be killed. Like other birds that live on an exclusively insect diet, it is not suited for food. Nor does it do any harm in the commonwealth. But on the contrary, is instrumental in the destruction of mosquitoes, a most inveterate foe to our comfort and a most deadly disseminator of disease. As it is an important factor in sanitation, this bird should not be killed under any circumstances but its propagation should be encouraged. It is amply protected by law in this state, and all good citizens should see to it that this law is enforced and the pernicious habit of killing bull bats for sport, forever swept into oblivion.

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There are more than three hundred different kinds of mosquitoes. Only one kind of all that number transmits yellow fever.

That one kind is known as the *Stegomyia fasciata*.

The *Stegomyia fasciata* does not generate yellow fever.

She gets the infection by biting a yellow fever patient.

That is the only way she gets it.

And the only time she can get it is during the first three days of the disease.

After thus biting a patient the mosquito is said to be infected.

She cannot give the disease to some one else till twelve days have passed.

After the twelve days have passed the mosquito is said to have reached the infective stage.

This infective stage lasts the rest of the mosquito's life.

Now whenever she bites some one who has not had yellow fever, the mosquito gives it to him, or "infects" him.

This is the only way the mosquito gets the infection—from a human being sick with yellow fever.

This is the only way the human being gets yellow fever—from an infected mosquito.

N. B.—The pronoun "she" is used in the above connection because only the female *Stegomyia* mosquito bites and can transmit the disease.

\* \* \* \* \*

There is an animal found in the ocean called the jelly-fish. It looks like an immense mushroom, in shape, and is composed of a

jelly-like substance. The parent of the jelly-fish is a very different animal. It is called the hydra. You would never dream that they are kinsfolk. Likewise the offspring of the jelly-fish is the hydra. The jelly-fish produces the hydra—the hydra produces the jelly-fish. This is called in biology, alternation of generations. It occurs in both plants and animals.

\* \* \* \* \*

There is a small plant that covers damp places making a soft, velvety growth of intense green. It is the moss plant. Everybody knows what the moss plant is. The moss plant produces seed in the bud of the plant. The seed sprout and come up right in the bud without falling out. And they continue to grow right in the bud of the parent plant, sending roots down into the plant. But it is a very different plant from the parent, and no more a part of it than the mistletoe is part of the oak. This new plant growing in top of the parent also produces seed. But they fall to the ground and come up making a plant like the parent was. This is an example of alternation of generations among plants. The leafy moss plant produces the leafless stalk that grows in the bud of the former—the leafless stalk growing from the bud of the parent produces seed from which the well known moss plant springs.

\* \* \* \* \*

The malarial parasite is a minute animal organism that exhibits likewise the phenomenon of alteration of generations. One generation is passed in the human being, producing chills and fever—what we call malaria. The other generation is passed in the stomach of the mosquito.

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#### SIMPLE SCIENCE TALKS.

(Continued.)

We have seen that a one-celled plant that is round is called a coccus, a rod-shaped one a bacillus, and a comma shaped one a spirillum. We have seen also that the yeast plant, is a one celled vegetable organism, that reproduces by budding instead of by division.

In the present talk we are going to discuss some of the properties of these organisms.

And just here I want you to get quit of the idea that all germs are harmful to man. The truth is, very few are. Among the higher plants there are some 250,000 species known, and yet of all that number only a few dozen are poison, as the poison oak and so on, while the thousands of others are not only harmless but a great blessing to man, as corn, wheat, potatoes, pines, etc. The same thing is true

of the microscopic plants—there are many hundred species that are not only harmless but a great blessing to man—while only a few dozen are harmful.

\* \* \* \* \*

Heat kills any plant, whether as large as a pine, or as small as a typhoid bacillus. Cold kills some plants, but not all. But cold retards the growth of all plants, whether large or small. That is why plants cease to grow, as winter approaches. They not only cease to grow, but they get ready for the cold weather. Maples, apple trees, peach trees, and all such throw off their leaves and become hard—we say the “sap goes down.” The pine, cedar, and some others don’t throw off their leaves but they cease to grow and dry out so that they can stand the cold better. In the spring when the weather turns warm, they put out new leaves, blossoms, etc. We say the “sap rises.”

Not only do the higher plants prepare for winter, but the lower ones do. In the summer we see a green scum on stagnant water. That scum is low forms of vegetable life, usually spirogyria or cladophora. In the winter we don’t see it—where has it gone? Where does it come from in summer? As the cold weather approaches, the something like seeds, and these spores sink to the bottom. They stay there till the return of warm weather, then they begin to grow and rise to the top and soon the pool or pond is covered with green scum again.

Plants not only prepare for cold weather, but they also prepare for drought. When a pool covered with green scum dries up in summer, the minute plants form spores and sink down into the mud and wait for rain, just as they wait for warm weather during the cold.

Not only plants but animals likewise prepare for cold weather. In the spring horses and cattle shed their coats and the young hair is short during the summer. But it grows as the season wears on and by fall it is long and becomes a good protection in the winter. Not only that but many animals prepare their winter supply of food in summer. e. g. squirrels stow away nuts. Where the winters are severe, many animals go to sleep and spend the entire winter in that state—hibernation we call it. Even in this latitude there is little doubt that mosquitoes occasionally hibernate and pass the winter that way.

\* \* \* \* \*

Now between the two extremes—heat sufficient to kill on the one hand, and cold sufficient to retard growth or altogether stop it on the other, is a state of temperature which is technically known as the optimum, that is the best. But the optimum temperature varies among different plants and animals. The polar bear, for example

could not live in the tropics on account of the heat, while the elephant could not live in the polar regions on account of the cold. The Royal palm, which thrives as far south as Miami, will not stand the cold of Jacksonville. Other things being equal, all plants do best when grown at optimum temperature.

\* \* \* \* \*

Among the higher plants, different kinds need different soil. The cherokee rose, while it may be grown in other soils, is best adapted to clay. Sweet potatoes are best adapted to light soil. The soil of the mistletoe is an oak or cherry laurel, or some allied plant. But there are any number of plants that are not suited to the propagation of the mistletoe. The long moss, so common in Florida, is an air plant—it takes its nutrition almost if not entirely from the air. The duck-weed on the other hand grows in water—so does the water hyacinth. The edelweiss is a little plant that grows at the top of mountains in Switzerland, and roots in the crevices of rocks.

The microscopic plants are as varied in their habits as the larger ones. Some live entirely in living animal matter. They are called parasites. Some live in dead animal matter—they are called saprophytes.

In practice certain germs are grown in the laboratory, as the typhoid bacillus. The typhoid bacillus is grown in bouillon, which is only a specially prepared beef soup. The tiniest particle of the typhoid germs is put in the bouillon and in a few hours it is full of typhoid bacilli. They can be grown upon potato, in milk, on gelatin, on agar, and in a number of other cultural media.

(To be continued.)

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## INSTRUCTION AS TO TUBERCULOSIS IN THE PUBLIC SCHOOLS.

From Bulletin North Carolina Board of Health.

The State Text-book Commission when they adopted, last month, the books to be used in our public schools for the next five years, made the acceptance of the text-book on Physiology and Hygiene conditional upon the insertion therein of a special chapter on Tuberculosis. This was agreed to by the publishers, the J. B. Lippincott Company. The plan proposed by the Buncombe county Medical Society, with whom the suggestion originated, which suggestion was cordially approved and urged upon the commission by this office, was to have the president of that society, Dr. McBrayer, of Asheville, Dr. Stevens of the same city, president of the State Association for the prevention of Tuberculosis, and Dr. Way of Waynesville, representing the State Medical Society, each prepare

a tentative chapter and submit them to the Secretary of the State Board of Health for his approval and final editing. It was suggested, however, by the Secretary, that in order to have it written in the same style as the rest of the book—in a style adapted to the pupils—and to save time, which was pressing, the publishers be asked to have it prepared and submit it for approval. This was done, and the proof sent to each of the four gentlemen named. The Secretary of the Board of Health revised and amended it in several particulars, rewriting that portion relating especially to the prevention of the disease, and submitted it to the other three gentlemen for their approval.

So far as we know, this is a step in advance of other states in the instruction of the children on this most important subject. All the text-books on physiology and hygiene consider tuberculosis to a greater or less extent, but it has not been so fully treated nor so emphasized and impressed upon the attention of the children as it is in this instance by having a separate chapter devoted to it. The following is the chapter as adopted:

(From the Second Book of Physiology, by permission of the publishers, J. B. Lippincott Co.)

#### CHAPTER XIII.

##### CONSUMPTION, OR PULMONARY TUBERCULOSIS.

Consumption, or pulmonary tuberculosis, as it is scientifically called, is the most fatal of all diseases, being the cause of about one-seventh of all deaths in the civilized world. Every one should know something about it, for by knowing a few simple facts it is easy to protect yourself from catching it if you come in contact with it, and to protect others if you have the disease yourself. Consumption is contagious, but it is not very much so. It is not contagious in the same way as measles or scarlet fever. In these diseases the germ of the disease floats in the air near the sick person and if you come in contact with them you are very apt to catch the disease. This is not the case with consumption unless the sick person is very careless in spitting, for the germ of consumption is lodged in the lung and is confined there, except when the patient coughs and spits it up.

How caused.—Consumption is caused by a very small germ called the tubercle bacillus. It is so small that even when you put it on a slide under a microscope and magnify it five hundred times, it looks like a mere tiny beaded thread. If you magnify a little baby five hundred times he would be about as tall as the Washington Monument of the National Capital. So you see how very small

the tubercle bacillus is. Isn't it strange that such a small thing should cause such a terrible disease? But it does this because it grows steadily in the lungs and multiplies itself a millionfold. It also produces a poison called toxin, which circulates in the blood. By weakening the normal resistance of the lungs, it also furnishes a fertile soil for other germs which come to join it. These other germs are the cause of colds and coughs and grippes. Then when the disease is advanced, the tubercle bacillus and these other germs give rise to the symptoms of consumption, which are cough, fever, and night-sweats, and great loss of flesh and strength.

How to prevent consumption.—Now, when you think that this terrible disease can be prevented by a little care on the part of the consumptives, isn't it a pity that they do not all know this and stop the spread of the disease? What must a consumptive do to protect others from catching the disease? Just one little thing—he must be scrupulously clean. The germ of consumption sees the light of day only in what the consumptive spits up.

As long as this spit, or sputum, is moist the germs cannot float into the air to be breathed by some one else. Therefore, the consumptive should in one way or another so care for his sputum that it can never become dry before it is destroyed—best by burning.

When in the house he should be particularly careful never to spit on the floor, or walls, or bed clothes. The best way is to spit directly into the open fire, if there be one, or into a paper box or on a paper handkerchief, or bit of rag, so that it can be burned in the stove before it gets dry. If a spittoon should be used it must have an antiseptic solution, or at least water, in it, to keep the sputum moist until it can be burned or buried. This indoor care is very important, because consumption is nearly always caught in a house infected by the germs from a case that has been careless about his sputum. A house in North Carolina was occupied by a white family of eleven, the father having consumption. He and his wife and eight of the nine children died of it. Later it was occupied by a consumptive colored woman. About three months after her death a family of ten strong, healthy colored persons took possession and every one of them died of consumption.

If a consumptive lives in a city or town, he should never spit on the sidewalk, but into a spit-box, or at least into the gutter. If he lives in the country, he should never spit directly into the path, but on the sides into the bushes or weeds. When a consumptive coughs, sneezes, laughs, or talks loud, if near another person, he should always turn his face away and hold a paper handkerchief, or rag, or even his hands, if he has nothing else, before his mouth. The fine mist, or spray, thrown into the air by these acts contain the germs of the disease.

A consumptive taking these precautions is not dangerous to those who come into contact with him.

Other precautions.—Of course he should sleep in a nice airy, sunny room. Sunlight kills germs. He should avoid kissing even his own children or sisters or brothers, because of the tubercle bacilli that may be on his lips. The consumptive, too, may thus catch a cold or an influenza from others, for some colds and other acute inflammations of the nose and throat and air passages are contagious. These are dangerous to the consumptive, because they aggravate his disease. You must always remember that colds are very bad for consumptives and make their condition much worse.

How consumption affects children.—Consumption, as you know, affects grown people by attacking the lungs, but it affects children differently. Very few children have consumption of the lungs; in them it attacks the glands. There are little chains of glands running all through the body. In healthy children they are small and soft, and you cannot feel them, but when they become diseased they become enlarged and hard, and you can feel them, and even see them when they get big enough. The place where they are most easily felt is in the neck and under the lower jaw, and also in the arm-pits. In these places they are most superficial, that is, nearest the surface and just under the skin. When these glands are enlarged you can be sure that the deeper ones in the chest or thorax, and in the abdomen where you cannot feel them, are enlarged. There are many other things than the tubercle bacillus which enlarge the glands. Any infection or inflammation may do so, so that not every child who has enlarged glands or "kernels" in its neck has tuberculosis. Still, enlarged glands are always suspicious, for healthy children do not have them; and if they are present you should go to a doctor and have him examine your chest and watch you as you grow up. For if the glands are enlarged from the presence of tubercle bacilli in them, there is always danger of the bacilli reaching the lungs when you grow up and giving you consumption. The bacilli reach the lungs by getting into the lymph and blood currents and being deposited in the lungs, where they find everything favorable for their growth and development.

Present knowledge of the disease.—We know much more now than we did a few years ago about the treatment of consumption. We know now that it can very often be cured or the process stopped. The earlier the disease is discovered and the less inroads it has made in the lungs, the better is the chance of getting well. Therefore it is important that all doctors should examine their patients carefully in order to discover the disease before it has gained much headway, for the moment tubercle bacilli have lodged in the chest,

which, while very slight at first, can be readily recognized by a skilful doctor. That is what the doctor is for, and that is what he is doing when he listens to your lungs and thumps your chest when he examines you. He can tell by the changes from the normal sound that something is wrong, and just what that is and how far the disease has gone. He can also tell by feeling your neck whether your glands are enlarged, and so be ready, if they are, to prevent the spread of the disease to your lungs.

Conditions favoring consumption.—Children and grown people who are thin and in poor health, and who have colds and coughs and sore throats, are more likely to take consumption than others. They have not as much strength to resist the disease. Therefore you should keep yourself as well and strong as possible. You should eat well and drink much fresh milk; sleep well and long, and be out-of-doors as much as possible. Exercise is good for you, too, if you do not take too much of it. Everyone should exercise according to his strength. Deep breathing and chest exercise are good for you, particularly if your chest is narrow and flat, or undeveloped, but they are not good for you if you have consumption of the lungs. You should not get your feet wet and should protect yourself from catching cold. Thorough ventilation of the bed-room is of the greatest importance—the more so in proportion to the number occupying it.

Overcrowding is very bad for the health. One or more windows should be kept open day and night. Cold pure air is much more healthful than warm foul air. People who sleep out-doors all the time rarely have colds.

Treatment.—After the disease is once contracted the treatment follows along these lines. The important thing is to preserve your strength. So you will have to sleep with your windows open or even out in the fresh air; you will have to take eggs and milk and good meat in order to retain your strength; and you will have to rest and be very quiet, in order that all this good food, fresh air, and sunshine may make you so strong as to be able to throw off the disease. Medicines are of very little use in consumption. They cannot effect the tubercle bacilli, which are too hardy to mind any drugs. That is the reason you must follow out the treatment under a good doctor and if your disease is not too far advanced, you will get well. You will never, however, be quite as strong as other people, and you will always have to take care not to catch cold and not to tire yourself too much. The care you will have to take will not prevent you from being useful and happy. You can be in business just like other people, and can, with a little care, live just as long as though you never had the disease.

Avoid patent medicines.—There is in this connection something you must shun as you would poison, and that is the patent medicines. There are all kinds of "sure cures" and fake remedies put out by unscrupulous companies. They advertise them to "cure" consumption. None of them are of the slightest value. They are indeed worse than useless, because they delude you with false hopes. By taking them you lose just that much valuable time; they weaken your constitution, and they make the disease in the lungs worse.

Further precautions.—So you see consumption is not such a hopeless disease after all. It is not very contagious, but you must not kiss or be too intimate with people who have consumption, and should avoid living in houses where consumptives have died, certainly before they have been thoroughly scoured and disinfected and have the walls whitewashed or repapered. And you must always keep yourself in as fine health as possible. Avoid all excesses, whether in eating or drinking; do not worry or overwork, over-exercise or overstudy, and abstain from the use of tobacco and alcoholic drinks, all of which may so weaken the body that the disease germs can get firm hold upon you. If you have the disease you must be scrupulously clean, and particularly careful to burn everything you spit up. If you have the disease and are in its early stages, your chances of getting well are very bright, provided you have the proper treatment.

#### QUESTIONS.

1. What can be said of the fatality of consumption?
2. Why should every one know something about the disease?
3. Is consumption contagious as are measles and scarlet fever? Explain the difference.
4. What is the origin of the disease?
5. How may the spread of consumption be prevented?
6. How should the sputum be disposed of?
7. Cite any instance showing how the germs of consumption linger in dwellings.
8. Name some other precautions against the spread of consumption.
9. How does consumption affect children?
10. Name some conditions which favor consumption and how to offset these conditions.
11. Tell briefly how to treat a consumptive.
12. The effect of patent medicine on consumption.
13. What should be done to the house in which a person died of consumption?
14. Is consumption curable?

RULE GOVERNING COLD STORAGE OF POULTRY,  
ETC.

From Bulletin No. 9, Kansas State Board of Health.

After an exhaustive investigation of the literature on the subject of the cold storage of undrawn poultry and game, together with personal experience and clinical observation by a large number of physicians with whom the secretary has come in contact, the conclusion was arrived at that the sale of such product in Kansas was not only a menace to the health of the citizens of our state, but contrary to the law as found in section 2277 and 2325, in that such meat products were unwholesome and tainted with the gases and ptomaines incident to putrefactive changes of the intestinal contents.

In accordance with this conviction, the State Board of Health, at its quarterly meeting held September 14, passed a rule prohibiting the sale of cold-storage undrawn poultry, game, and fish, and instructed the secretary to cause the same to be published in the official publication of the Board.

That all parties interested might have due notice, the following letter containing said rule was mailed to all packing-houses, transportation companies conducting dining-car or hotel service, and such cold-storage firms doing business within the State of Kansas whose names and addresses we could get:

Kansas State Board of Health,  
Topeka, September 18th, 1906.

Dear Sirs:

The following rule was adopted by the State Board of Health at its quarterly meeting held September 14th, 1906:

"The sale at retail within the State of Kansas, for human food, of any domestic or wild fowl, game or fish that has been kept in cold storage with their entrails, crops and other offensive parts undrawn is prohibited. The service as food within the State of Kansas of any such domestic or wild fowl, game or fish is also prohibited."

This rule is founded on sections 2277 and 2325 of the General Statutes of 1901, and will be strictly enforced after its publication in our official bulletin, the Bulletin of the State Board of Health.

Investigations have clearly proven that poultry kept in cold storage undrawn becomes in a short time unwholesome and often tainted, and, in many instances, before reaching the consumer actual

putrefactive changes have set in in the tissues themselves. Numerous instances have been recorded of serious cases of ptomaine poisoning, which, with other evidence in possession of the Board, gives sufficient cause for the enactment of the above rule.

Very truly yours,

KANSAS STATE BOARD OF HEALTH.

S. J. Crumbine, M.D., Secretary.

In this connection it will be of interest to quote from the annual report of the dairy and food commissioner of Pennsylvania, which report has just been published. The conclusion drawn from the investigations of that department are contained in the following official utterances:

"The oft-discussed question as to the healthfulness of poultry that was not drawn at the time of killing and which was kept in cold storage for days, months, and even years, before it was sold to the consumer, was again brought to the attention of the dairy and food commissioner during the past year with more or less frequency. It developed through investigation, and a series of correspondence, that fowls are killed sometimes without bleeding, packed before entirely dead, and frozen solid without removal of entrails. It is needless to state that the presence of undigested food and excrementitious substances in such fowls must, necessarily, taint the flesh and assist in its decomposition, and particularly because of the fact that the frost is either wholly or partially removed after the fowls leave the cold-storage chamber and before they reach the consumer. Bacterial action and ptomaine poisoning quickly appearing with the actual putrescent condition which already exists, the danger to life is unquestionably a serious one. This question is one that certainly demands consideration at the hands of our next legislature."

This is largely in accord with the results of experimental work done by the United States Department of Agriculture, whose opinions are contained in bulletin No. 144 of that Department, which are as follows:

"Under precisely the same conditions of temperature and humidity, drawn fowls will keep from twenty to thirty days longer than those not drawn. The presence of undigested food and of excrementitious substances in animals which have been killed most certainly favors tainting of the flesh and general decomposition. The viscera are the first parts to show putrescence, and allowing these to remain within the body cannot do otherwise than favor infection of the flesh with bacteria and ptomaines, even if osmosis does not actually carry putrid juices to contiguous tissues. Hunters know the value of drawing birds as soon as possible after they have been shot,

in order to keep them fresh and sweet and to prevent their having a strong intestinal flavor.

"That the opening of the body of an animal and exposing the internal surface to the air may have some influence of itself in hastening putrefaction is admitted, but when the process of drawing is properly conducted this secondary objection to its immediate performance may be entirely set aside. Absolute cleanliness should be maintained throughout the operation, and if the entrails are torn and their contents allowed to come in contact with the flesh of the animal, its interior should be at once washed out with clean water and afterwards with a solution of common salt, and the carcass hung up until thoroughly dry."

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Whenever any one tells you that the Rules and Regulations of the State Board of Health have not the force and authority of Statute Law behind them to sustain their requirements, just remind that individual that some years ago a prominent citizen of Jacksonville asked for a mandamus against the Board of Public Instruction of Duval county to compel the Board to admit two of his children who had not been vaccinated; the Board having previously made that requirement as a prerequisite to registering and entry in compliance to the rule of the State Board of Health. The question of course came before the courts for determination and Judge Call sustained the Board of Public Instruction, and thus indirectly sustained the rule of the State Board of Health.

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#### SAID OF NOTES, OUTSIDE THE STATE.

The NOTES acknowledges with thanks receipt of the following letter from Dr. Hurty, Secretary of the State Board of Health of Indiana:

State of Indiana, State Board of Health,  
Indianapolis, Oct. 25, 1906.

Dr. Joseph Y. Porter,  
Jacksonville, Fla.

Dear Dr. Porter:

I simply want to say that I like the "FLORIDA HEALTH NOTES" exceedingly. It is good tissue all the way through. And, as for the little fly story, it is most excellent, and I shall copy it in the next issue of our Bulletin. I shall look forward with much interest each month to the appearance of "FLORIDA HEALTH NOTES."

Very truly yours,

(Signed) J. N. Hurty, Secretary.

# FLORIDA HEALTH NOTES

## OFFICIAL BULLETIN

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### FAULT FINDING.

The English tongue is prolific in expressing peculiar ideas, and English-speaking Americans, especially those living within the confines of the United States, are noted for the facility with which they deviate from all rules in regard to language construction, and the freedom with which words are coined to convey an idea, or describe the peculiarities or the personal habits or idiosyncrasies of individuals. Phrases thus constructed to describe a thought or fancy, or words shaped to express some characteristic or eccentricity, are usually, and unfortunately, of the slang order, and are not generally made use of either in polite writing or speaking. But as Chaucer English, strictly as such, is seldom seen or heard in these days, custom sometimes condones a divergence from polished rhetoric, where a thought is sought to be made more expressive and oftentimes sanctions a wide range in expressing one's meaning and ideas. Thus it has become a fashion to speak of any one who is constantly com-

plaining as a KICKER. The term was at first probably inspired from seeing football players dispose of obstacles in their game and then figuratively made use of as a method of getting rid of unpleasant things. Whatsoever the source or derivation of the word, it is certainly peculiarly expressive of a class of persons who oppose any and everything suggested for public improvement or individual or social benefit.

Criticism and fault finding are not synonymous; they are two different phrases and should not be confounded alike in meaning. With qualification, criticism offers a manly and frank method of dealing with acts of individuals, officials, communities or Nations, but fault finding is a puerile habit of disagreeing and opposing, without offering a better method of procedure. A fair criticism cannot be sensibly objected to; on the contrary, it rather stimulates to a healthy action and an improvement in methods. Neither does or should charitable criticism provoke to anger, because officials are prone to be negligent when they should be vigilant, and forgetful when they should be watchful.

The KICKER is a faultfinder, pure and simple, and not a critic, and his opinion expressed by writing or by speech is never seriously considered, but is rather looked upon as an exhibition of ill temper or of cross-grained disposition.

To such a degree has unreasonable fault finding grown in this country that quite recently the President of the United States, when officiating at the laying of a cornerstone of a public building in Washington, took occasion to administer a scorching rebuke to a class of fault finders who, by unwarrantable attacks on public officials and public policies, seek to misrepresent motives and actions of those who have been placed by the people to discharge duties almost sacred in character. Choosing for his theme, he likened the Muck-raker of Bunyan, who never looked up but always down to grovelling things, to the fault finders of to-day, whose ambition never lofty, criticisms never meritorious, never aspire to a crown promised by an approving conscience for duty well done, but keep on constantly raking, the petty, carping imaginings of a distorted and narrow soul.

In the sanitary happenings of life and in the management of affairs looking to the betterment of the health of the people, State Boards of Health have often to encounter opposition from a certain class of Muck-rakers, who seek to belittle the efforts of acquired and extended experience, by injecting a petty individuality and ill-timed contention by speech or writing on subjects of hygiene and sanitation based on no experience, but only on a simple "I don't think

such and such a thing is right," which must be considered merely as an expression of a conceited mind wholly ignorant of the subject propounded or discussed. The NOTES believes that thinking and intelligent people will decide rightly in the end and to their benefit, but it must not be assumed that ignorance does not have its votaries or some influence, particularly when questions arise which restrain the freedom of individuals where the rights of others may be even indirectly affected, and it is particularly in times of existing pestilence, or threatened spread of epidemic disease that this kind of a KICKER assumes to air his or her knowledge—or lack of knowledge—and be a leader of the opposing forces of all well-directed sanitary management.

The NOTES asks its readers and the people of Florida generally to discourage fault finding and opposition to rules and regulations formulated for the preservation of the public health, for it is believed that if deep thought is given to the subject and a regulation analyzed which is intended to preserve the health and protect life, it must be conceded in the end that there is reason in the requirement and common sense in its provisions.

The NOTES has frequently in its pages pointed out that there is nothing occult or mysterious in sanitary measures; the suggestions for the fulfillment of which are based altogether on natural laws and their inexorable demands.

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Florida has one official who is a model of self-sacrificing zeal for the community he lives in. Dr. J. N. Fogerty, who has been acting as City Health Officer of Key West since the death of Dr. Plummer, recently notified the Board of Aldermen that he would continue to serve the city as such if the salary of the office and also the collection of the fees on birth and death certificates were abolished. Such an instance is refreshing in this age of graft and exposure. A city officer who does not want salary or fees! It reminds one of the soliloquy in one of Shakespeare's plays:

"How far that little candle throws its rays;  
So shines a good deed in a naughty world."

Florida is fortunate in having a number of citizens who faithfully serve the public in offices to which little or no pay attaches. Here is one who goes further and asks that he shall not be paid the salary to which the incumbent of his office is entitled.—Times-Union.

SIMPLE SCIENCE TALKS—(*Continued.*)

We have said that some bacteria are harmful, causing disease as the typhoid bacillus, the diphtheria bacillus, the bacillus of tuberculosis. But they are not all harmful by any means. Indeed, there are only a few known to cause disease, while there are hundreds that are even beneficial to man. France, for instance, makes millions of dollars every year through the action of bacteria. For that is the way wine is made. The juice of the grape is used to grow germs in—the yeast plant. This growing of the yeast plant in grape juice converts the sugar into alcohol. The process is ordinarily called "fermentation." And that is the way all wines are made. Another kind of yeast plant grown in fruit juice will produce not an alcoholic but an acid fermentation. The product is then called vinegar. And that is the way all our vinegars are made. Did you ever see the "mother" of vinegar? That is a mass of the yeast all gathered together. You know the delicious flavor of vanilla. That is produced by taking the vanilla bean and fermenting it. Did you ever hear of growing velvet beans to improve land? The way velvet beans improve land is by harboring in their roots a certain kind of germ. This germ has the property of converting the nitrogen of the air into nitrates that form a valuable food plant. When velvet beans are so infected the roots become covered with small nodules. Other plants of the bean family may also be used in the same way to improve land, as peanuts, vetch, beggar weeds, peas, etc. Flax is grown something like cotton, but it has to undergo a fermenting process before it is ready for use. Were it not for bacteria the grass that the cow eats would not be assimilated. The cellulose walls of the plant cells which contain the nutrient part of the grass have to be dissolved by the action of bacteria. Were it not for bacteria, putrefaction would not take place. A dead animal would not decompose. But the great good accomplished by bacteria is the purification of sewage. That is, they decompose the organic matter, reducing it to its simpler elements, and thereby making it available for plant food. Henceforth, let us think of germs, or bacteria, as living things, some of which are harmful, just as the poison ivy among higher plants is poisonous, but a majority of which are very useful to man, just as a majority of the higher plants are useful one way or another. There are times and circumstances when we want to encourage the growth of higher vegetables. Likewise there are times when we want to destroy bacteria just as we want to destroy thistles. But let us not forget that in the micro-organic world there are very few disease-producing germs.

(*To Be Continued.*)

## WHAT EVERYBODY OUGHT TO KNOW ABOUT SMALLPOX.

1. That smallpox, variola, varioloid, swinepox, Cuban itch, elephant itch, Philippine itch and the "bumps" are one and the same thing.
2. That it is caused by a germ, or micro-organism, or microbe, or "bug," if you please, and that only. It is never caused by filth.
3. That it does not generate spontaneously, but that each case comes from some other case.
4. That it does not travel through the air, but that in order to contract it one must come in direct contact either with a case of smallpox or bedding, clothing, or some material that has been in contact with the patient.
5. That a severe case may be contracted from a mild one, or conversely, a mild one may be contracted from a severe one.
6. That both sexes, all ages, and all races are susceptible to the disease.
7. That the eruption is usually worse in the face, especially across the middle zone, so that when pitting occurs it is apt to be there.
8. That there is no known way to prevent pitting except to prevent the disease altogether.
9. That smallpox is a preventable disease—no man, woman or child need have it that chooses not.
10. That vaccination is the only known safeguard against it.
11. That vaccination does not merely make the disease milder, but PREVENTS IT ALTOGETHER.
12. That in a great majority of cases one attack of smallpox or one successful vaccination renders the individual immune for life.
13. That in a few cases, however, one attack of smallpox or one successful vaccination produces only a partial immunity, and that in such case the individual may subsequently contract smallpox or be successfully vaccinated again.
14. That there are no natural immunes.
15. That the only way to know that you will never have smallpox is to be vaccinated again and again till it will no longer take. When thus immunized, one may eat with it, sleep with it, or live with it, with absolute safety.—From 16th "Annual Report of the State Board of Health of Florida.

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"In the elder days of art,  
 Builders wrought with greatest care  
 Each minute and unseen part—  
 For the gods see everywhere." —Longfellow.

## MERITED APPROVAL.

Among the citizens of Florida whom the NOTES delights to honor is the Superintendent of Public Instruction of Duval County, Hon. H. B. Palmer. Though a public official and holding an elective office, he is seen to do his duty without asking who it may please or displease. As a result of his conscientiousness about two thousand school children have been recently rendered immune to smallpox. That means that if Jacksonville were full of smallpox, these two thousand children would all be safe against it, however much they might be exposed. Two thousand children rendered immune—no deaths—not one seriously sick—no arms that had to be “taken off nearly”—and be it said to the credit of the people of Jacksonville, very few have protested against this action of Mr. Palmer’s. Some few of the lesser well-informed have protested against it and even gone so far as to hint that they believed it illegal. In reply to that we would say that it is a rule made by the State Board of Health, authorized by the Statutes of Florida, and that it has the force of statutory law. This same rule was once attacked and taken to the courts and sustained. Just here the following Supreme Court decisions may be of interest: (From the Journal of the American Medical Association.) “The Supreme Court of Pennsylvania, speaking through Chief Justice Mitchell, says that the substantial question in the case of Stull vs. Reber and others, was whether the act of 1895, requiring the exclusion from the public schools of children who have not been vaccinated, is a valid exercise of the police power of the State. It has been twice so decided by this court. In Duffield vs. School District of Williamsport, 162 Pa., 476, a similar regulation, not even enacted by the Legislature, but enforced by the school directors under an ordinance of the city of Williamsport, was held valid. And in Field vs. Robinson, 198 Pa., 638, this very statute was held constitutional. However, it appeared to be thought that because the decision was given in a brief opinion “per curiam” (by the court), the subject was not fully considered. But the proper inference is precisely the reverse, that the conclusion was so perfectly clear to the whole court that it did not require any extended argumentative support. After these two decisions the question ought to have been considered as closed.”

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The following observation is from a well-known physician of this State: “I have often noticed how ants will swarm around a little mass of tuberculous sputum, and I have no doubt these same ants are the ones we find later on in our sugar-bowl, etc.” Do you take the hint?

## AN EXCELLENT CREED.

*(American School of Home Economics.)***We believe—**

That right living should be the fourth "R" in education.

That home-making should be regarded as a profession.

That health is more the business of the individual than of the physician.

That most illness results from carelessness, ignorance or intemperance of some kind.

That as many lives are cut short by unhealthful food and diet as through strong drink.

That the upbringing of children demands as much study as the raising of cattle.

That on the home foundation is built all that is good in state or individual.

That the spending of money is as important as the earning of money.

That economy does not mean spending a small amount, but in getting the largest returns for the money expended.

That the home-maker should be as alert to make progress in her lifework as the business or professional man.

That the most profitable, the most interesting, study for women is the home, for in it center all the issues of life.

That the study of home problems may be made of no less cultural value than the study of history or literature, and of much more value.

To the above creed the NOTES wishes to add:

That it is every citizen's duty to wage eternal war against house flies and to learn a little something about tuberculosis.

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TYPHOID FEVER—ITS PREVENTION AND RESTRICTION.

(Edition of 1906.)

*(Issued by the State Board of Health of Maine.)*

Typhoid fever is a communicable disease. It is both contagious and infectious; it is best to try to make a distinction between the meaning of these two words. From patients improperly cared for the danger of taking the disease is considerable; with the sick cared for as this circular advises, there is little danger to nurses and other attendants.

**SOURCE OF INFECTION**—The source of infection in every case of typhoid fever is some preceding case. The communication may be

direct from patient to attendant, but it is more frequently by indirect infection as is mentioned under the sub-heading, "Media of Communication." There is no reason to believe that, without the presence of the specific infection (the typhoid bacillus or germ) a cold, indiscretion in eating, or any unhealthful conditions can alone cause typhoid fever.

In typhoid fever there is a general infection—the whole system is permeated by the germ. The infection is given off plentifully in the excretions from the patient—in the discharges from the bowels, in the urine in many cases, and in what is coughed up and spit out when there are complications affecting the lungs and air passages. Hence the urgent need of thorough disinfection of all these discharges from every typhoid fever patient.

**HOW RECEIVED.**—The infection is received by the new victim to typhoid fever by swallowing the typhoid germs in infected food, or drink, and probably only by swallowing when infectious dust from infected clothing or infected carpets or floors is inhaled.

**MEDIA OF COMMUNICATION.**—The most frequent mediums for spreading typhoid fever is polluted water supplies—water which has from sewers, house drains, privy vaults, or other sources, received infection. If the source of water supply is polluted with human excreta, solid or fluid, it is a dangerous water. If thus polluted, the chances are that, sooner or later, it will become infected. Many persons suffering with a slight ailment not recognized as typhoid fever, or who, having apparently fully recovered from typhoid fever months ago, are nevertheless still excreting infection. Thus at any time a water receiving pollution may receive typhoid infection and become a source of danger to persons who use it.

In ground which contains considerable organic matter (polluted soil), typhoid infection may remain alive and dangerous for months, and perhaps for years. Thus, the danger of successive infections of wells when the ground around them is polluted. Hence the need of the utmost care to destroy utterly the infection of all typhoid discharges and suspicious discharges, before the final disposition of them. (See "Disinfection of Excreta.")

Frequent outbreaks of typhoid fever are due to milk which has been infected by the addition of polluted water, by the washing of cans and other milk utensils with unclean water, by milkers or caretakers of the milk whose hands, or clothing, are infected, etc.

Not infrequently typhoid fever is spread by oysters or other shell fish which have come from beds or waters exposed to sewage pollution.

Undoubtedly typhoid infection is occasionally spread through

the medium of low growing fruits or vegetables eaten raw, grown upon infected ground, or by bread, pastry, confectionery, fruits, vegetables, meats, etc., handled by infected hands in bakeries, stores, markets, and slaughter houses, or the same articles and infected by flies recently arrived from sources of filth. Some of these articles are congenial culture media for the multiplication of the typhoid germ.

In recent medical opinion "finger infection" is coming to occupy an important place in the spread of typhoid fever. The patient's own fingers, unless care for cleanliness is perfect, are sure to be infected, and they in turn infect everything they come in contact with. The fingers of nurses and attendants become infected in attending to the wants of the sick, and unless they receive more than the ordinary washing, may carry infection directly to the mouths of their owners, or may infect bread or other articles of food handled or prepared by them.

Cases of typhoid fever in washerwomen, after handling the clothing of typhoid fever patients are frequent enough to emphasize the necessity of the utmost care for the cleanliness of the typhoid patient, his bed, and his clothing, and for the avoidance of infectious dust.

The experience in some military barracks has shown clearly that continued outbreaks of typhoid fever have been due to the use of rooms, bedding and uniforms not disinfected after their use or occupation by former typhoid patients. Such outbreaks, not referable to any other causes, have suddenly ceased after the infected rooms or clothes have received proper disinfection.

Flies having access to privy vaults or sources of typhoid infection elsewhere, then, through unscreened doors and windows, to living rooms, alighting upon food already prepared for the table or to be used without subsequent heating, are a serious danger. Again, reference may be made to the fact that some of these articles, liquid, semi-solid, or with moist surfaces, thus slightly infected, serve as congenial culture media for the rapid multiplication of the infection. A few typhoid germs brought on the feet of flies may increase many fold if deposited in milk or on the surface of boiled potato.

The general filth conditions in the homes of extremely untidy families favor the spread of typhoid infection, and in such homes, and in any homes where there is a lack of care for the greatest possible cleanliness of the sick person, his bedding, clothing and everything else in the management of him, the danger from direct contagion, "contagion infection," is serious.

**PERSONAL PRECAUTIONS.**—Suspicious water—that which is

contaminated or is liable to contamination with human excreta—should be avoided, or when that is impracticable, should be boiled. Heating water or milk to the simmering point, or even a somewhat lower scalding temperature, will effectually destroy typhoid germs.

In a typhoid house do not eat anything in the sick room, or anything which has been in the sick room. Have left-overs well heated again before they are brought to the table. Avoid cold and raw foods as much as possible.

Do not use infected clothing nor occupy rooms previously occupied by typhoid patients until they have been disinfected thoroughly. Keep the hands clean. Exclude flies.

After a considerable stay in the sick room, or occasionally while nursing the sick, it would be well to rinse the mouth with plain boiled water or with the addition, if preferred, of a little of the essential oil of cinnamon, peppermint, eucalyptus or the essence of them, or a combination of them, with a few drops of chloroform, shaken before using, but do not keep the mouth-wash in the room, nor use it there. With the conditions of the sick room fairly satisfactory, this is not a very necessary precaution.

Avoid taking the typhoid patient's breath unnecessarily in his immediate vicinity if he has pneumonia, or has an explosive cough. The sputum bearing infection may be sprayed into the air during coughing, but the range of possible danger is slight—hardly more than four or five feet.

**PRECAUTIONS IN THE SICK ROOM.**—The room should be as large and airy as is practicable. Free ventilation is desirable. Carpets, draperies, pictures or other unnecessary things which may retain infectious dust and complicate disinfection should be removed.

The bed mattress should be protected with impervious rubber sheeting beneath the usual sheets. There should be two of these pieces of rubber sheeting so that they may be changed and disinfected as required. The best way to make up the bed for the typhoid fever patient is the following: 1st. Over the mattress (no feather bed) spread smoothly and tuck in the sheet. Under the sheet it is well to have a once-folded sheet or blanket. 2d. Next a rubber sheet spread crosswise the bed, the two ends tucked smoothly under the edges of the mattress. 3d. A folded sheet (draw-sheet) also crosswise over the rubber sheet. 4th. A second rubber sheet. 5th. Over that a second draw-sheet.

The aim of the sick room management should be: The prompt destruction of every vestige of infection leaving the patient in the discharges from the bowels and kidneys or in the sputum, so that privy vaults, the ground, the home surroundings, or wells, springs

or other sources of water supply may not be infected. (See Disinfection.)

The bedpan or other vessels should contain a moderate quantity of disinfecting solution before it receives the discharges from the patient, and should immediately after have a liberal additional quantity of the disinfectant poured into it—three or four times the bulk of the matter to be disinfected. All of the discharges from bowels and kidneys must be disinfected. (See Disinfection.) All sputum (what is spit up) must be burned.

The utmost cleanliness of the patient and his surroundings should be the rule. In those cases in which the condition of the patient makes it difficult to avoid the soiling of his bed, smaller squares of rubber sheeting and folded sheets should be placed above the ordinary sheets. All soiled sheets and clothing should be removed promptly before drying can occur. (See Disinfection.) Care should be had to cleanse and disinfect the patient locally with a solution of corrosive sublimate 1:2000—half a dram to the gallon of water, or one tablet to the quart.

The sick person should have spoons, dishes and other eating utensils for his own exclusive use, never washed in the same pan or with the same cloths used for other dishes. They are preferably washed by the nurse in or near the sick room.

Unnecessary visitors should be excluded from the sick room. The nurse may take her meals at the household table. With proper disinfection of her hands and general tidiness, danger of her carrying infection is not to be apprehended, as with scarlet fever and various other infectious diseases.

**PRECAUTIONS DURING CONVALESCENCE.**—In many cases during the period of convalescence, and in some cases for weeks and even months after recovery is apparently complete, the urine of the recent typhoid fever patient may be loaded with the infection. That excretion may, in fact, constitute a pure culture of the bacillus of typhoid fever, though apparently normal, and the person apparently well. Such persons, while in this condition, are a grave source of danger to other persons where they live, and to every place they visit, and, if they happen to have anything to do with the distribution of milk and perhaps some other food supplies, persons remote from the presence of these convalescents may be infected by them. Public safety requires that persons recovering from typhoid fever be kept under bacteriologic control until there is an assurance that they are no longer a menace to the public.

**ONE OTHER PRECAUTION.**—Typhoid fever often assumes very atypical forms—the typhoid fever of children, “walking ty-

phoid," persons who have been exposed to typhoid infection and have as a result only an apparently insignificant diarrheal disorder. Other persons exposed to the infection may present few or no symptoms of departure from health, but may, nevertheless, excrete for a while a plentiful supply of typhoid infection and thus be a source of imminent danger. Cognizance should be taken of these cases in the investigation of the sources of outbreaks. If there is the least suspicion that such cases are typhoidal, recourse should be had to the State laboratory, for aid in the diagnosis, precautionary measures not being neglected meanwhile.—*Bulletin of the State Board of Health of Maine.*

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#### THE TRAVELING "SPECIALIST."

*(From the Bulletin of the Illinois State Board of Health.)*

The State Board of Health desires to sound a warning to the people of Illinois against the so-called "traveling specialists" who come from time to time into the various communities, their visits heralded by bold display advertisements in the newspapers, or by showy handbills. As a rule, the greatness and eminence of these itinerants is confined quite closely to their own statements—in their own communities they are not looked upon as distinguished specialists, but as men of mediocre ability who find traveling and advertising more lucrative than the quiet, dignified practice of their profession.

The State Board of Health would especially warn the people to avoid any relationship with those itinerant physicians who ask that written agreements be entered into regarding the treatment of cases; who insist upon the signing of notes, or who guarantee cures in consideration of contingent fees. In dealing with patients who are honest and straightforward, it is seldom found necessary by the regular physician to bind them with contracts, notes and agreements. Further, the innocent looking "agreement," which the traveling specialist asks the patient to sign, frequently turns out to be a promissory note, pure and simple, which is promptly transferred to a third person and which must be paid, regardless of the effects of the treatment, or whether any treatment has been given or not. It is very questionable if the English language is capable of more clever and deceptive twists and turns than those given it by the unscrupulous "traveling specialist." Certain it is that, unless the "specialist" is personally known to the patient as a man of honesty and ability, it is foolhardy to enter into any agreement or business arrangement with him, and under no circumstances should an agreement or con-

tract with an itinerant be signed, except in the presence of a competent lawyer.

The sums of money fraudulently collected from the people by these itinerants would, in the aggregate, pay the war debt of a most belligerant republic of moderate dimensions."

What is true in Illinois is true in Florida. Only last week it came to our notice that a certain man calling himself a "cancer specialist," but who also treated all sorts of maladies from ingrowing toe-nails to piles, gathered enough victims together to pay him a decent sum of several hundred dollars in advance, and then he "skidooed." Beware of such, lest you demonstrate the truth of the old adage, "A fool and his money are soon parted." H. B.

Jacksonville, Fla., Nov. 28, 1906.

Dr. Joseph Y. Porter, State Health Officer, Jacksonville, Fla.:

Dear Doctor—Complying with Dr. Ennis' earnest request and your directions, I beg to report that I visited the Narcoossee Sunshine Home on November 23d, returning on the 24th, and found it in about the following condition:

The Home is situated some two miles from the little village of Narcoossee, between Lake Hendon and Lake East Tohopekaliga, the lakes being one-quarter to one-half mile apart at this point. There are twenty-two (22) acres of land in the tract, bordering on Lake Hendon, but another tract leading from this property to Lake East Tohopekaliga has been promised, which will give a water outlet from the grounds to Kissimmee. Lake Hendon is a beautiful lake, almost circular, with a sandy beach. Its diameter is one-half to probably three-quarters of a mile. Lake East Tohopekaliga is a larger lake, being one to two miles wide and seven to eight miles long, and by a narrow strait or canal is connected with Lake Tohopekaliga, on which Kissimmee is located. The land surface is slightly undulating and has its original forest. It is well covered with yellow pine, here and there an oak interspersed, and just a little undergrowth.

The improvements are worth probably \$6,000, and consist of a house of some five or six rooms, which is to be used as the administration building, dining room and library. There is also a barn, a pinery of one-quarter acre, in bearing, a garden, also a small orange grove in bearing. For the accommodation of the patients, tents are kept on hand, to fill in emergencies, but it is proposed to build small cottages for the permanent use of patients. One of these small cottages is already constructed and simply furnished at a cost of about \$150.00. It has a door at one end, a French window at the other end, a French window at one side and a double half window at the other side, making ventilation possible from the four sides. It is

furnished with a white enamel iron bed, two chairs, a small dresser, washstand. The night of the 23rd of my visit I occupied this cottage and found it very comfortable. Other cottages will be constructed as needed and as the institution grows.

While the sanitorium is only in its infancy, the site is an ideal one and has possibilities that are rare.

The line of treatment is the most approved, consisting of pleasant environments, nutritious food and open air. This does not mean that all medication is withheld. It simply means that medication directed solely toward tuberculosis is withheld. When any other concurrent trouble arises, as constipation for instance, it is treated as it would be in a non-tuberculous subject.

You are thoroughly informed of the history of this enterprise; how Dr. Ennis, himself a tuberculous subject, came to Narcoossee several years ago and recovered; and how in the goodness of his heart, he conceived that it would be an ideal camping place for "lungers," and therefore tendered them his private premises, together with water and a reading room, for such as might wish to take advantage of it; and how, during the following winter, some fifteen patients from the North and South came to Narcoossee and camped, all of which improved, and many of which apparently recovered; and how the movement was taken up by Everybody's Magazine and by the Tribune Sunshine Society giving publicity and encouragement to it; and that as a result of all this the present embryo of what ought to become a well equipped out-door sanitorium has been established.

In its inception, it was purely philanthropic and it so remains to the present day. Dr. Ennis, in fact, prefers not to have wealthy patients, for the reason that they can go to other sanitoria that are more expensive. He desires that accommodations at this place be reserved for the poor people, especially of Florida, who are unable to take advantage of other sanitoria.

This philanthropic and humanitarian enterprise should have the richly merited support and encouragement of every citizen of the State. Very truly yours,

HIRAM BYRD,

First Assistant to State Health Officer.

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Are you a citizen of Florida? Suppose your doctor were to tell you some day that you had tuberculosis, what would you do? Where would you go? How would you set about trying to get well? Would you stay at home and run the risk of infecting the rest of the family? If not, where would you go? Go off and infect somebody else? What would you do about it, anyway? Better think on this a little; it may happen any day.

## A STATEMENT OF FACTS.

In the October number of **HEALTH NOTES** a synopsis was given of health conditions in Cuba, especially as regards the yellow fever situation on the island, which was condensed from the Public Health Report of the Public Health and Marine Hospital Service at Washington of September 21st. A telegram from Havana dated September 12th was quoted, with the comment: "And yet the claim is made for the utmost frankness in reporting the health conditions of the island." Prof. John Guiteras, who is the Director of Las Animas Hospital—the infectious and contagious disease hospital for Havana—takes exceptions to the comment of the **NOTES** and characterizes the same as a malicious attack on the Health Authorities of Cuba, and demands a retraction. The **NOTES** is not disposed to rest under this harsh and unmerited criticism, even of so distinguished a man as Prof. Guiteras—for whom heretofore the State Health Officer has entertained a high personal and professional regard—without protest, and that the readers of the **NOTES** may judge whether the inference deduced from the facts which are gotten from the public and official records is not sufficiently clear so as to be necessary to be stated in the telegram, the telegram from Havana and the item which appeared in the **NOTES** are published in parallel columns, the italics being that of the **NOTES**:

From Public Health Report, Washington, D. C., September 21, page 1,105: "September 12—While visiting Las Animas Hospital today, examined case of fever, entered hospital evening 10th. Expressed myself as believing it case of yellow fever. Was then informed case has been confirmed 10th instant. *Had not received report, though in daily communication with health authorities.*"

From **FLORIDA HEALTH NOTES**, October, 1906, page 54: "Dr. von Ezdorf, the U. S. M. H. representative in Havana, while visiting Las Animas Hospital on the 12th of September, found a case of yellow fever. He was then informed that the case had been diagnosed on the 10th, but he had had no notice of it, though he had been in daily communication with the health authorities, *and yet the claim is made for the utmost frankness in reporting the health conditions of the Island.*"

The **NOTES** might have said also, and been within the confines of accurate and truthful statement, that the onward march in the number of new cases of yellow fever, since the United States re-occupation of Cuba, is also open to an inference not complimentary to pre-existent management, but perhaps it would be considered as "malicious" to mention this fact also.

During October the State Board of Health wrote to the County Superintendents of Public Instruction in this State concerning vaccination of school children as a prerequisite to admission to the *schools* of the State. The letter is such a long one that it cannot be reproduced in a pamphlet of this size without excluding other matter, but it deals very fully with the law on the subject and the obligations of the County Superintendents of Public Instruction to see that the rule of the Board is faithfully carried out, both in the private schools as well as those of a public character.

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Sing a song of acid,  
 Bucket full of dye;  
 Four-and-twenty bob veal  
 Soaked in alkali.  
 When the mess is cooking  
 Shake the borax can;  
 Isn't that a dainty dish  
 To set before a man?

—Exchange.

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STRICTLY GERM PROOF.

The Antiseptic Baby and the Prophylactic Pup  
 Were playing in the garden when the Bunny gamboled up;  
 They looked upon the Creature with a loathing undisguised—  
 It wasn't Disinfected and it wasn't Sterilized.

They said it was a microbe and a Hotbed of Disease;  
 They steamed it in a vapor of a thousand-odd degrees;  
 They froze it in a freezer that was cold as Banished Hope,  
 And washed it in permanganate with carbolated soap.

In sulphuretted hydrogen they steeped its wiggly ears;  
 They trimmed its frisky whiskers with a pair of hard-boiled shears.  
 They donned their rubber mittens and they took it by the hand  
 And 'lected it a member of the Fumigated Band.

There's not a Micrococcus in the garden where they play;  
 They swim in pure iodoform a dozen times a day;  
 And each imbibes his rations from a Hygienic Cup—  
 The Bunny and the Baby and the Prophylactic Pup.

—Arthur Guiterman, in Woman's Home Companion.

# FLORIDA HEALTH NOTES

## OFFICIAL BULLETIN

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### GRATITUDE FOR THE LIVING.

"Let us not forget, that if honor be for the dead, gratitude can only be for the living. He who has once stood beside the grave to look upon the companionship which has been forever closed, feeling how impotent there is in the wild love or the keen sorrow, to give one instant's pleasure to the pulseless heart or a tone in the lowest measure to the departed spirit for the hour of unkindness, will scarcely for the future incur that debt to the heart which can only be discharged to the dust. But the lesson which men learn as individuals they do not learn as nations. Again and again they have seen their noblest descend into the grave, and have thought it enough to garland the tombstone when they had not crowned the brow, and to pay honor to the ashes which they have denied to the spirit. Let it not displease them that they are bidden, amid the tumult and the dazzle of their busy life, to listen to the few voices and watch for the few lamps which God has trimmed and

lighted, to charm and to guide them, that they may not learn their sweetness by their silence nor their light by their decay."

And lest we Floridians fail to remember this admonition and warn of Ruskin, ere it is too late, the Notes bids the citizens of this State to honor those now living, who, by deeds of valor on battle fields, in the forum, in scientific attainments, in letters, or in the quieter walks of life, have acquired honor and distinction among her citizenship, and have reflected credit upon the State which gave them birth. Among all of those who thus stand prominently in the lime light for public approval, for honesty, uprightness in character, and courage—and Florida delights to number a host of that class still living—there is one yet with us, thank God, who, as a soldier, private citizen, and ruler of the people, has always exhibited a fervor of spirit, purity of character, and a frankness in all dealings with his fellow men. Francis Phillip Fleming, when elected Governor of Florida in 1888, appreciated at once the seriousness of the situation which confronted him, in an almost paralyzed business condition of the State from the devastating and demoralizing epidemic of yellow fever of the previous summer, and, realizing the responsibility of the high office for which the people of Florida had elected him, he immediately sought to put into operation measures which would secure the provisions of an Article of the Constitution which the people themselves had enacted three years before, to preserve their health, and to protect as well, their commercial interests. Article XV. of the State Constitution provides for the creation of a State Board of Health with "supervision of all matters relating to public health," and with "such duties, powers and responsibilities as may be prescribed by law," but although ratified by the people at the polls in 1886, no action had been taken by a succeeding Legislature to obey the mandate.

To protect life, preserve health, and to secure peace, tranquility and happiness of the people, should be the first aim and duty of the Executive of any State or nation, and when a humane act of an Administration stands out prominently as the first in the commencement of an official career of a public official, it is fitting and proper that attention shall be called to this fact, and due honor and gratitude be paid to the man while living, for having made this feature of his administration of State affairs, from the possibility of a patriotic conception, to the demonstration of an accomplished fact. This Governor Fleming acquired through the work of the State Board of Health, and which during the past seventeen years has amply proven the wisdom of the course he pursued at the

time; for it can hardly be denied that a confidence in the conditions of health management in Florida which the State Board of Health has inspired and which did not exist before the institution of that body, has largely conduced to an enlarged immigration, increased growth of population, and vast monetary investments.

All Floridians should honor and be grateful to the man whose convictions as to the necessities of the people at the time, and whose courage to act, notwithstanding much opposition, prompted him to call together a Legislature two months in advance of the regular session, that there might be in active operation before the next heated term, an organization authorized by the Constitution, whose duty it would be to look after the health of the people of the *whole* State, and uniformly operate rules for the preservation of the same.

Unfortunately, rulers, whether of nations, republics, States or municipalities, concern themselves but little with the health of the people, so that when an instance to the contrary arises so markedly in contrast to the ordinary, sanitarians and philanthropists delight to make conspicuous mention of the fact and to do homage to such a distinguished character.

While yet we may, therefore, and opportunity offers, let all Floridians crown him; let us entwine about the brow of Francis Phillip Fleming—one of the State's very own—garlands of flowers fragrant with a perfume of admiration and praise for the distinguished service which he has rendered his State, and place on his head a wreath woven from tendrils of loving gratitude, waiting not "to pay honor to ashes which should have been given to the spirit."

PALMAM QUI FERUIT MERAT.

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#### THE NATIONAL PURE FOOD LAW.

The National Pure Food Law, which is being discussed so thoroughly in the newspapers at present, goes into effect January 1, 1907. This law, however, applies to drugs, liquors and medicines as well as foods, and the term "food" as used in the act includes "all articles used for food, drink, confectionery, or condiments by man or other animals, whether simple, mixed or compound."

There seems to be a popular misconception as to the extent of the law, although much has been written about it. The act applies only to articles entering into interstate or foreign commerce, or sold or produced in the District of Columbia and the Territories.

The act cannot prevent the sale of adulterated drugs and foods,

or the misbranding of them, *within the boundaries of the State in which they are produced*. The right to make their own laws regarding foods and drugs and their manufacture and sale within the State in which they are made belongs to the several States. But the act does provide penalties for the manufacture, sale, or offering for sale, of adulterated or misbranded foods, drugs, medicines, and liquors, and their shipment from or to any State, Territory or foreign country.

Congress forbids the sale of any articles which come within the provisions of this act where it has jurisdiction to do so, and also prohibits the sale in the States in original packages, but has not jurisdiction to prohibit the sale within the State in which they are produced.

It will thus be seen that an adulterated article, manufactured in New York State, may be sold within the boundaries of the State without coming within the provisions of this law; but it cannot be shipped into Pennsylvania or any other State or Territory without being a violation of the law. It is therefore apparent that, in order to secure the desirable results which may be obtained under this act, it must be followed by legislation along these lines in the different States.

The act defines when drugs, confectionery and food are deemed to be adulterated. Food is deemed to be adulterated:

First: If any substance has been mixed and packed with it so as to reduce or lower or injuriously affect its quality or strength.

Second: If any substance has been substituted wholly or in part for the article.

Third: If any valuable constituent of the article has been wholly or in part abstracted.

Fourth: If it be mixed, colored, powdered, coated or stained in a manner whereby damage or inferiority is concealed.

Fifth: If it contain any added poisonous or other added deleterious ingredient which may render such article injurious to health.

Sixth: If it consists in whole or in part of a filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or one that has died otherwise than by slaughter.

There is also a provision, omitted from No. 5, above quoted, which provides that the use of preservatives is allowed only when they are necessarily removed mechanically or by maceration in water.

or otherwise, before the food is used; and the directions for the removal of the preservative must be printed on the package.

The act defines the term "misbranded" as applying to all drugs or articles of food, the package or label of which bear any statement, design or device, regarding such article, or the ingredients or substances contained therein, which shall be false or misleading in any particular. Also, if it is falsely branded, as to where it is manufactured or produced.

Products are deemed to be misbranded if they are an imitation of, or offered for sale under the name of another article; if the whole or part of the contents of the original package have been removed and other contents been placed in the package; or if the package fails to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, hereoin, alpha or beta eucaine, chloroform, sannabis indica, chloral hydrate, or acetanilide, or any derivative or preparation of any such substances contained therein.

Food is deemed to be misbranded if it be an imitation of, or offered for sale under the distinctive name of another article; if it be labeled or branded so as to deceive or mislead the purchaser, or purport to be a foreign product when not so, or if the whole or part of the contents have been removed, or if fail to bear a statement of the quantity of the substances mentioned above, except alcohol; or if the weight or measure of the contents of the package are not correctly stated.

An article of food which does not contain any poisonous ingredients but in the ordinary sense of the word, adulterated, may be sold if marked "compound," "imitation," or "blend," as the case may be.

No dealer shall be prosecuted under the provisions of this act when he can establish a guaranty signed by the wholesaler, jobber, manufacturer, or other party residing in the United States, from whom he purchases such articles, to the effect that the same is not adulterated or misbranded within the meaning of this act, designating it.

Proprietors or manufacturers of proprietary foods, which contain no unwholesome added ingredients, cannot be compelled to disclose their trade formulas, except so far as necessary to prevent adulteration or misbranding.

Any adulterated or misbranded food that is being transported from one State or Territory to another, or that has been transported or imported from a foreign country, may be seized, confiscated and destroyed.

The act will undoubtedly prevent the shipping of adulterated foods into the State of New York from other States and Territories and from foreign countries.

The provision requiring the labeling of patent medicines, to show the amount of alcohol, morphine and other drugs which they contain, is of particular importance. A patent medicine bill was strongly urged upon the last Legislature, but it failed to pass. This provision of the Pure Food Law is of great importance, and will be of immense benefit in checking the sale of the numerous proprietary preparations masquerading as "tonics," "liver remedies," "invigorators," etc., and containing a large quantity of cheap whiskey. It will also affect the dangerous catarrh snuffs containing cocaine and the numerous preparations in which morphine and acetanilide are the ingredients used, which have worked harm to thousands of people.

It is inconceivable that our Legislatures have allowed the sale of these vicious and health-destroying preparations to proceed as long as they have. The graphic disclosure of these various frauds in recent publications has been of immense help to officials interested in checking their sale.

With the people thoroughly awake to the insidious dangers of many of our proprietary medicines, and the degrading effects which they have upon innocent victims, the manufacturers of these articles will soon occupy the same position in society as the thug with the slung-shot.—Monthly Bulletin New York State Department of Health.

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#### SIMPL-E SCIENCE TALKS.

*(Continued.)*

This time I'm going to tell you about diphtheria anitoxin. But there are so many other things to tell first, I fear you will get tired, before we get to the subject.

You must first know that diphtheria is due to the diphtheria bacillus, a germ found in the throat of diphtheria patients. The diphtheria bacillus is a very minute vegetable organism, rod shaped, as you already know, from its name "bacillus," and one that grows very rapidly when planted in the right kind of soil. The kind of soil that it grows well in is blood serum. The kind of soil that it grows best in is the throat of one sick of diphtheria. When we talk about germs growing we do not mean that they get larger. We mean that they keep on dividing and dividing again until there are millions of them where before there were only a few.

While growing, the diphtheria bacillus throws off a poison. And

this is true whether growing in blood serum or the human throat. If grown in blood serum the poison thrown off will be in the serum. The germs could be filtered out and the serum would still contain the poison. This serum could then be injected into a person and it would give him all the symptoms of diphtheria. If a large enough dose were injected it would kill the person. When the diphtheria bacillus gains access to the throat of a child, it begins to grow there just as it grows in blood serum. And in the same way throws off a poison. The poison thus thrown off is absorbed and makes the child sick—gives him diphtheria. N. B.—It is not the germs themselves that make the child sick, it is the poison that the germ throws off. This poison is called *toxin*.

Now let us begin at a new place. When an acid and an alkali are brought together, the solution is neither acid nor alkali—it is neutral. When extreme heat and extreme cold are brought together, they neutralize each other, as when hot and cold water are mixed. In the same way a poison may be neutralized. If a substance were mixed with the poison of diphtheria that would exactly neutralize it, it would no longer be poisonous. Perhaps we had better say it another way: Put carbolic acid on your hand and it will at once begin to turn white—we say it “burns.” Now put alcohol on it and it stops burning. The alcohol neutralizes it. And this, by the way, is a useful thing to know when you get a carbolic acid burn, apply alcohol at once.

If you have these four facts settled: (a) That the diphtheria bacillus, when growing, throws off a poison, which the books call a *toxin*, and (b) that this *toxin* when absorbed is what makes the patient sick, and, (c) that this *toxin* may be neutralized, that is rendered harmless, and (d) that the substance that neutralizes the *toxin* is called *antitoxin*, we will go a step further. I told you sometime ago, while speaking of hydrophobia (see Health Notes, page 57, October number), what it is to be immune and how that immunity is produced against hydrophobia. I told you that very small doses of the hydrophobia poison are injected into the patient at first, and these small doses make him sick. When he recovers, larger doses are given, and still larger until the patient gets so he can take immense quantities without getting sick from it. He is then said to be “immune.” This means that the patient has developed in his blood the substance that neutralizes the poison. Let us stop now and put together the things that we have learned. When a poison is injected, the patient develops something to neutralize it—an anti-poison. If we call the poison a *toxin*, which

is its proper name, we will have to call the neutralizing substance an anti-toxin, which is its proper name.

Let us stop and go over this again. We will say it another way this time.

Diphtheria bacilli are grown in blood serum, then killed and filtered out. But they have left this poison—this toxin in the serum. Now a small dose of this serum is injected into a horse. This gives him the symptoms of mild diphtheria. The horse at once begins to develop in his blood an anti-poison—antitoxin—to neutralize the poison. This done, he is well again. More toxin is given him. His blood gets richer in antitoxin, till great quantities of this diphtheria toxin can be given him without making him sick. That means his blood is full of antitoxin—that substance that neutralizes the toxin. Now bleed the horse, and his serum is used for the antitoxin that it contains.

A child gets diphtheria; it is the germs growing in its throat throwing off a toxin which is being absorbed and which makes the child sick. The child's blood also begins making antitoxin just as the horse's blood does, to neutralize the toxin. As soon as it makes enough to neutralize all the toxin absorbed, it recovers. If you have some ready-made antitoxin you can inject into the patient, you help the case by neutralizing the toxin at once.

In practice, whenever a case of diphtheria develops, antitoxin should be administered at once. Few, if any, cases prove fatal when given antitoxin freely on the first day of the disease. The second or even third day is not too late to administer antitoxin, with good results, but the sooner the better.

Again: Antitoxin administered to the well renders them immune against diphtheria, just as vaccination renders people immune against smallpox. But with this difference, that the immunity against diphtheria is not permanent, but lasts only two to six or eight weeks, while the immunity produced by vaccination against smallpox is, in most cases, permanent.

When diphtheria occurs in a family the family physician should be called, the patient isolated, large doses of antitoxin given to the patient and small doses to the other children of the household, in order to keep them from taking the disease.

#### INTERNATIONAL SANITATION.

The Sanitary Convention, signed at Washington, D. C., October 14, 1905, marked an era in this work in the Western Hemisphere. This agreement, which codified the measures necessary to guard

against the invasion and propagation of yellow fever, cholera and plague from one country to another, emphasizes the responsibilities of the different governments to each other in matters relating to the public health. Such measures will remain a necessity until the nations harboring infectious diseases institute engineering and sanitary measures for their elimination.

The duty devolving on all nations to eradicate disease from their territory formed the subject of a resolution which was passed by the American Medical Association at its annual session in 1889. Since that time this principle has been repeatedly advocated.

In 1876, Woodworth suggested the awakening of an international sentiment for the prevention of cholera and yellow fever; since 1896 Surgeon General Wyman has urged international action for the elimination of yellow fever from its endemic centers, and Kitasato has recently advocated the organization of an international army to combat and vanquish plague. The arguments in each case are the relief of commerce and the saving of human life.

An advance in international understanding leads to the hope that before long an international compact will be formed looking to the eradication of transmissible disease from infected localities. This means the enforcement of sanitary and hygienic measures, particularly in seaport towns which, under present conditions, are a constant menace to the health of other countries.

A specific suggestion was made at the Conference of the American States in Mexico in 1901, looking to an international agreement for the elimination of yellow fever. Since that time much evidence has accumulated to show that with well-directed efforts such a consummation is possible. Two threatening epidemics have been suppressed, one at Laredo, Texas, and one at New Orleans; and the efficient sanitary work on the Isthmus of Panama is convincing that life in an endemic focus of yellow fever may be rendered safe. This suggestion served the purpose of pointing to a standard to which effort should be made, and had an influence in the adoption of the resolution under which international sanitary conventions are now held.

In this issue of *THE JOURNAL* appear the recommendations recently adopted at the Third International Conference of American States, held in Rio de Janeiro. They suggested the adoption of measures tending to secure improved sanitation of cities, and place on the next International Sanitary Convention, to be held in Mexico, December, 1907, the duty of devising some plan or agreement looking to that end. An international agreement to this effect would be of the greatest importance to commerce and the public

health, and would ultimately relieve, in great measure, the necessity of quarantine.

The method of transmission and prevention of infectious diseases (particularly yellow fever, malaria and tuberculosis), are now so well understood that there should be little difficulty in arriving at some general plan should take cognizance of the fact that epidemics requiring national intervention have their origin in insanitary local conditions, and the argument naturally follows that the national governments of the several republics must in some manner exercise a more direct influence for the correction of these faulty conditions.—The Journal of the American Medical Association. .

### DESTRUCTION OF MOSQUITOES.

Mosquitoes, in common with other insects, pass through four stages of existence: Eggs, larvæ or wiggler, pupa, and imago, or full grown mosquito. The egg hatches only in water and this cannot be said too emphatically. It applies to all species alike. Some mosquitoes, as the salt marsh breeders, deposit their eggs on mud instead of water, but they do not hatch until flooded either by heavy rains or high tides. It is very patent that if the eggs could all be destroyed, there would be no wiggler and no mosquitoes.

The eggs not only hatch in water, but the larvæ, or the wiggler, passes his entire existence in water; and linked onto this is also the pupa life, which is also wholly spent in water.

It is only when the full grown mosquito emerges from the pupa-skin that he takes on an aerial existence. So far as the destruction of mosquitoes is concerned then, the life is divided into two periods: The period passed in the water and the period passed as a winged insect in air. Manifestly, it is infinitely easier to get at the mosquito during his water life than during his life on the wing. Except in special emergencies then, our efforts toward destruction should be directed not toward the adult mosquito, but toward the immature form—egg, pupa and wiggler.

It is true that when we want to rid a house of mosquitoes once it is infested we must kill the mosquitoes themselves, but it is infinitely easier to keep mosquitoes from coming to maturity by destroying the larvæ than it is to destroy the mosquitoes after they reach maturity and begin their depredations.

Too much cannot be said about breeding places of mosquitoes. Too great knowledge cannot be had of the conditions under which they do and do not breed, and too great enthusiasm cannot be put into this beneficent work. Remembering that they bred only in

water, it is to the water of a community that we must turn our attention. Whether it be drinking water in shallow, open wells; whether it be fountains for ornamental purposes; whether it be streams, ponds, ditches; whether troughs, sewer pipes; or whatever accumulation of water favorable for breeding them, it must be carefully attended to or else the community will pay for this neglect by suffering from the pest as well as possible disease infection.

To rid a community of mosquitoes and keep it so is not the work of an hour, nor of a season, nor is it the work of the health officer of the Board of Health. It is the work of all time and of all citizens.

I say that it is the work of all time because while one summer sufficient to lessen them very materially, it is not sufficient time in which can be wrought those permanent changes that militate toward final eradication. For instance, our larger towns have sewers already constructed and constructed on a plan that makes prolific breeding places for mosquitoes. It will take years and years to come to that state of knowledge of mosquito habits that will cause all of our sewers to be constructed with a view to preventing mosquitoes from breeding, and this applies not only to the sewers and to cisterns, but to houses as well, particularly where the rainy season prevails, for sagging gutters not infrequently breed mosquitoes in abundance. Furthermore, when every sewer, pool, fountain, house ditch, and every other conceivable place for mosquitoes to breed is so constructed that they are least likely to become breeding places, even then if the sanitary and public attention is relaxed the mosquitoes will find accidental breeding places in sufficient numbers to be both annoying and a source of danger. "Eternal vigilance" is the price of freedom from mosquitoes.

I have said that it is not the work of the health officer or the Board of Health, but that it is the work of every citizen. Suppose that the Health officer and the Board of Health and every citizen in town except one in every block does his whole duty toward getting rid of mosquitoes and that that one in every block keeps, through carelessness or neglect, a breeding place.

That one breeding place will be sufficient to counteract all of the good work of the rest of the citizens. It is true that the greater the number of breeding places being maintained, the greater the number of mosquitoes we will have. But when we remember what inconceivable numbers may come from a single breeding place, we will see that it is absolutely essential to have the united co-operation of every citizen. On one occasion the water in a rain barrel was filtered and the wiggler counted and it was found to contain 17,000. Two

weeks later the water from the same barrel was found to contain 19,000. A few days ago I had some water collected from the catch basin of a storm sewer and counted enough to make a close estimate of the number of wigglers contained in one gallon of that water. It will probably be a matter of surprise to most people to know that a conservative estimate placed the number at 3,000. From this is seen how much irreparable harm a single citizen may do in a community—how much good work of all the others a single individual may counteract.

These hints on the destruction of mosquitoes are dropped here and there more for their suggestive than for their instructive value. A man who is thoroughly interested will take them up and follow them out and will find ways and means to meet every emergency.

There is one matter, though, I am constrained to think, has not been given sufficient attention, and that is artificial breeding places for mosquitoes to serve as traps, so that we can get to the larvæ and destroy them. Mr. Smith, of New Jersey, tells us that during a certain season he placed a number of pails of water in his garden around his house and that as the wigglers would accumulate he would empty them and refill the pails, thereby keeping the mosquitoes down until the advent of the salt-marsh breeders when the freedom from the local insects could no longer be appreciated. I am convinced that if pails of water were set in the shade around our houses where they would make attractive breeding places for mosquitoes that the mosquitoes would come there to deposit their eggs instead of depositing them in hidden places where we can not get to them and, as it takes them at least ten days to pass from the egg to the wiggler, it is only necessary to empty these pails once a week and refill them in order to catch most of the eggs that would be deposited around our premises, and destroy them. It would be a dangerous expedient though to place such traps and then neglect them, for we would thereby undo the work that we are trying to do.

H. B.

#### TICK ERADICATION.

Early in November a convention of Southern Sanitarians, State Veterinarians and officials of the Federal Department of Agriculture was held at Nashville, Tennessee. The object of this convention was to discuss and outline the general plans for the eradication of the common cow tick. This tick, *Boophilus annulatus*, harbors a parasitic protozoan, named by Dr. Theobald Smith, its discoverer,

*Pyrosoma bigeminum*. It is inoculated into the cattle by biting and lives in and at the expense of the red blood corpuscles, much in the same way as does the malarial organism.

The geographical distribution of the cow tick comprises practically all the territory south of the 37th parallel and east of the 103rd meridian, and the lower half of California.

It is now proposed to rid this immense area of this parasite, and it has been decided to ask Congress to appropriate \$250,000 to inaugurate the work. This appropriation, or larger ones, will have to be repeated by coming Congresses. Sufficient has been already accomplished to show the plan is practicable. The life history of the tick is such that advantage may be taken of the various requirements of the tick for its development. For instance, this tick does not crawl any considerable distance. It can, so far as we know at present, develop only on cattle and horses. When it develops on the horse, it loses its property of carrying the fever-producing organism. The adult ticks can not reattach themselves, if for any reason they lose their hold. The female "ripe" ticks drop off, lay their eggs and die. In three weeks these eggs hatch out, producing the larvæ stage, or "seed-tick." These seed-ticks lie in wait for passing cattle, and if they do not succeed in attaching themselves to cattle or horses in four months, they perish. If they attach themselves, they develop to maturity, growing an extra pair of legs, and sexual organs.

These conditions of development are to be taken advantage of, and it would seem that the cow tick is one insect that can be eradicated.

The general plan of the work is to have each infested State enact a quarantine law under which the Federal Veterinary Inspectors can co-operate with the State authorities. The bulk of the expense is to be borne by the general government and the infested States are expected to make an appropriation to help defray the expenses for her own officials. These plans perfected, the work of eradication can be proceeded with. This may be carried out in any one of several ways, the inspectors adopting that method which will be least burdensome and most effective for a particular locality. The animals can be sprayed with Beaumont Conde petroleum oil or plunged into a vat containing the oil. This oil, with its sulphur content, is peculiarly fatal to the ticks. Needless to say, it is necessary to have a tick-free pasture for the animals to be placed in, after all the ticks have dropped off, as a result of the action of the oil. Other methods consist in "pasture rotation," the "feed-lot method," the "soiling method." All these methods have a general resemblance

and are based on our knowledge of the life-history of the cow tick. A tract of land is divided into several pastures, or feed lots. The animals are kept in these, in succession, till all the ticks have dropped off. As all the ticks on an animal are not of the same generation, it becomes necessary to move them from one lot to a new one as soon as each generation matures and drops, and before the eggs can hatch out, and reinfest the animals. In the actual work, definite dates are followed, but it is not necessary to go more into detail here.

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According to estimates, the losses chargeable to the cow tick amount to \$40,000,000 annually. It will probably cost \$10,000,000 to eradicate the pest, and will require at least five years to accomplish the work. It is doubtful if any other industry would silently suffer a loss of this size over any considerable length of time. By its inhibiting action on the cattle industry, the cow tick restricts immigration and incidentally retards development along many lines. Here in the South, where the blizzard of the West is unknown, where muscle-producing stock feeds can be produced at a minimum expense, and where fresh water and shade trees are generally abundant, it would seem the cattle business ought to compete in price and in quantity with those from the tick-free section.

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#### DOCTORS.

'Tis quite the thing to say and sing  
 Gross libels on the doctor—  
 To picture him an ogre grim  
 Or hum-bug pill concocter;  
 Yet it's in quite another light  
 My friendly pen would show him,  
 Glad that it may with verse repay  
 Some part of what I owe him.

When one's allright, he's prone to spite  
 The doctor's peaceful mission;  
 But when he's sick it's loud and quick  
 He bawls for a physician.  
 With other things the doctor brings  
 Sweet babes, our hearts to soften:  
 Though I have four, I pine for more—  
 Good doctor, pray come often.

What though he sees death and disease  
 Run riot all around him?  
 Patient and true, and valorous too,  
 Such have I always found him.  
 Where'er he goes, he soothes our woes;  
 And when skill's unavailing,  
 And death is near, his words of cheer  
 Support our courage failing.

In ancient days they used to praise  
 The godlike art of healing—  
 An art that then engaged all men  
 Possessed of sense and feeling.  
 Why, Raleigh, he was glad to be  
 Famed for a quack elixir;  
 And Digby sold as we are told  
 A charm for folks lovesick, sir.

Napoleon knew a thing or two,  
 And clearly he was partial  
 To doctors, for in time of war  
 He chose one for a marshal.  
 In our great cause a doctor was the  
 The first to pass Death's portal,  
 And Warren's name at once became  
 A beacon and immortal.

A heap, indeed, of what we read  
 By doctors is provided;  
 For to those groves Apollo loves  
 Their leaning is decided.  
 Deny who may that Rabelais  
 Is first in wit and learning,  
 And yet all smile and marvel while  
 His brilliant leaves they're turning.

How Lever's pen has charmed all men,  
 How touching Rab's short story,  
 And I will stake my all that Drake  
 Is still the school-boy's glory.  
 A doctor-man it was, began  
 Great Britain's great museum—  
 The treasures there are all so rare  
 It drives me wild to see 'em.

There's Cuvier, and Parr, and Rush; they are  
Big monuments to learning.

To Mitchell's prose (how smooth it flows)  
We all are fondly turning.  
Tomes might be writ of that keen wit  
Which Abernethy's famed for;  
With bread-crumb pills he cured the ills  
Most doctors now get blamed for.

In modern times the noble rhymes  
Of Holmes, the great physician,  
Have solace brought and wisdom taught  
To hearts of all condition.  
The sailor bound for Puget Sound,  
Finds pleasure still unfailing,  
If he but troll the barcarole  
Old Osborne wrote on whaling.

If there were need, I could proceed  
Ad naus. with this prescription,  
But, internos, a larger dose  
Might give you fits conniption;  
Yet ere I end, there's one dear friend  
I'd hold before these others,  
For he and I in years gone by  
Have chummed around like brothers.

Together we have sung in glee  
The songs Old Horace made for  
Our genial craft, together quaffed  
What bowls that doctor paid for.  
I love the rest, but love him best;  
And, were not times so pressing,  
I'd buy and send—you smile, old friend?  
Well, then, here goes my blessing.

—Field.

# FLORIDA HEALTH NOTES

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#### CHEERFULNESS AS AN AID TO GOOD HEALTH.

"Life is too short to be overshadowed by gloom. Let us live bravely and cheerfully, as well as industriously and dutifully. The true heart recognizes the duty of happiness, and faces it with a certain courageous gayety that solves many doubts and scatters the clouds of woe and disaster. Let us cultivate the habit of cheerfulness and know that when we quench the innocent joy of a fellow creature by a word or a frown we are deliberately destroying a part of the world's most precious treasures.—Gainesville Sun. THE HEALTH NOTES thanks Mr. McCreary for his advice and counsel. Such hints to hygienic living show a rightful conception of the whole field of sanitation from the layman's side of the subject, and is of wonderful assistance to health officers in their work and efforts in teaching the people to healthful living, by employing simple, yet effective means to keep well. Cheerfulness is Nature's psychic remedy for imaginary ailments, which, when brooded over appear real, and then cause discomfort. Even when a downright illness overtakes one, a hopeful temperament will do as much in the

process of cure, and perhaps more—who knows—than the pills and mixtures of the doctor. Visitors in a sick room should always be in a happy frame of mind, as from the abundance of the heart the mouth speaketh, let bright thoughts and cheery words encourage the sick, and while not belittling the suffering or physical discomfort of the patient, try to lessen the irksomeness of the confinement by pleasant conversation and hopeful suggestions. It is downright cruel to tell any one that he or she is looking badly, or to ask: "Are you sick? you are losing flesh," or "how miserably you do look." Many a person has been hastened to bed and to the grave by just such injudicious remarks. Some people of phlegmatic temperament, are not influenced by unfavorable remarks about their appearance and apparent health, but the large majority of people are peculiarly sensitive to untimely suggestions of this character, which almost in some instances possess hypnotic power for ill. Endeavor to inject cheerfulness into every act of life; in work, in recreation, in pleasant duty and distasteful obligation, be cheerful; and as the jailor said to Socrates, when giving him the poison. "try to bear this unavoidable evil as lightly as possible." Suggestive treatment for many ailments has long since been recognized as an effective remedy for a certain class of disorders, where the mind can control the body if rightly directed. There is nothing occult about this method of keeping people well; neither can it be practiced to success on every form of disease. But a contented spirit, and a happy, hopeful disposition, anticipating only benefit from applied remedies, will have a better chance for cure and speedy relief than the gloomy morose, cross and crabbed individual, who sees nothing better ahead, and is always certain of direful happenings.

Quite recently scientists have seemingly discovered that certain conditions of atmosphere exert a decided influence over the human, especially as regards a mental state. Statistics intimate that cloudy, overcast days contribute to self-destruction; that is to say, that there are more suicides occurring on days when the sun is obscured and the atmosphere is charged with humidity. Not only does the mental state suffer by depressing conditions of atmosphere, but the physical man suffers likewise, and patients of all kinds of diseases are prone to suffer relapses, and convalescence is deterred when cloudiness prevails and fogs or mists occur for any length of time. God smiles upon the earth and on man when the sun shines. Nature cheers animal as well as vegetable life by the reflected heat and rays of the great planet. Bright, sunshiny days are health-giving and health-receiving, dispelling gloomy thoughts and depressing tendencies. "Laugh and grow fat" has more than a jocular twang to it. A hearty laugh is not only indicative of good spirits, but conducive and inspiriting to others. Good humor is as catching as small-pox. It is contagious, and no person can remain long in the company of cheerful people without imbibing some of the same happy disposition which seems to be an inherent

quality of their life. The NOTES is well acquainted with a noted divine in this State, with whom it is always a pleasure to travel or to meet, even casually. His cheery, hearty laugh, which comes straight from his soul, reflects the brightness and the image of his Creator, whom he serves so faithfully, and has a ring of such happy contentment in it, that a companion or listener cannot but appreciate that a cheerful spirit is a gift from on high, which giveth a peace which passeth all understanding, and a contentment which wealth cannot purchase.

Worry is the deadly enemy of cheerfulness; the twin brother or sister of unhappiness. A disturber of domestic comfort, it adds to the distress of many and makes life a burden, not only to the individual who is thus afflicted, but to every one with whom he or she comes in contact. There is a marked difference between anxiety and worry, and they should not be confounded one with the other, nor thought to be synonomous in meaning. In one the ills that exist are viewed with complacency, and are borne with fortitude, but with worry there is a constant anticipation of something wrong, which may never come to pass or happen. Henry Ward Beecher has very prettily and concisely said that "It is not work that kills men, it is worry. Work is healthy; you can hardly put more upon a man than he can bear. Worry is rust upon the blade. It is not the revolution that destroys machinery, but the friction."

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#### AN OBJECT LESSON.

People rarely get vaccinated except when they have to, either on account of the actual presence of smallpox or on account of some law or regulation requiring it. And as a rule ordinances requiring vaccination are not passed except in the presence of smallpox, and then as soon as the actual danger is over the regulations fall into innocuous desuetude. So after all, in its last analysis, the actual practice of vaccination depends almost exclusively on the actual presence of smallpox. School boards will enforce vaccination while smallpox is in the community, but as soon as the immediate danger is passed, then the practice is no longer carried out. As a result of this, those communities that have had more or less smallpox for several years in succession, are very nearly immune, some people having had the disease and acquired immunity that way; others having been vaccinated and acquired immunity that way. In such a community smallpox will die out, because there is nothing for it to feed upon. When it dies out, vaccination stops, and children grow up unvaccinated, and in a few years most people are susceptible to smallpox again. And in a few years, smallpox gets introduced again. And then it spreads like fire in a forest because most people are susceptible to it. Then it is that people fall over

one another getting vaccinated, but not until many lives are lost and many people disfigured for life.

Cleveland, Ohio, has a population larger than ten of the largest cities in Florida combined. After many years with little or no smallpox and consequently very little vaccination; when the population was nearly all susceptible to the disease; suddenly, and without warning, this loathsome malady gained entrance into the city. In 1898 there were forty-eight cases of smallpox and no deaths. The disease was just introduced. In 1899, there were 475 cases and three deaths. It was getting pretty fair anchorage. In 1900 there were 993 cases and 16 deaths. People said it was mild. In 1901, there were 1,230 cases and 20 deaths. It was still mild. In 1902, there were 1,298 cases and 224 deaths. Horror of horrors! The people opened their eyes. The health officer was opposed to vaccination. He had disinfected and disinfected—he had quarantined and quarantined, and the epidemic had increased. It had escaped all bounds. The public arose as one man and demanded of the medical profession that the epidemic be checked, but what was to be done? There was one way to stop it—one way only—and the health officer opposed that way. In September, 1902 the health officer, who had failed on account of his opposition to vaccination, and whose failure had cost the city all too dearly was removed, and in his stead another appointed. The people rallied to his support, and no fewer than 195,000 were vaccinated. But back to the epidemic: In 1903 there were 106 cases and 22 deaths in Cleveland. The epidemic is checked. In 1904, there were 42 cases and no deaths. The epidemic is controlled. In 1905 there were no cases, no deaths. Congratulations to Cleveland.

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#### SIMPLE SCIENCE TALKS. (*Continued*).

In the January number of **HEALTH NOTES** we talked about diphtheria antitoxin. We told you that it is prepared as follows: The diphtheria bacilli are grown in a special bouillon. They throw off a poison in the serum. This poison is called a "toxin." The germs are filtered out, but the toxin remains. The bouillon is now injected into a horse, in small quantity. This makes the horse sick because of the poison that was generated in it by the germs. He has all the symptoms of diphtheria. In fact, he has diphtheria artificially produced. But he has a mild case, because only a small quantity of the toxin was given him. He soon recovers. He is given another injection of the toxin—a larger dose this time. It makes him sick again. Soon he recovers again. Larger and larger doses are given him till he gets so he can tolerate large quantities. In fact, it gets so the toxin does not make him sick at all. This means that the horse has developed in his blood something that neutralizes the

toxin. That something we call anti-toxin. Now the horse is bled, and the serum of his blood collected and its strength determined, and it is put in the market as anti-toxin. Tetanus (which is the book way of saying lockjaw), antitoxin is prepared in the same way, except that instead of using the diphtheria bacilli in the first place, the tetanus bacillus is used. Other minor differences, such as the medium that it is grown in, etc., exist, but the principle is the same. And the anti-tetanic serum will neutralize the toxin of tetanus, that is lockjaw, just as the diphtheria serum will neutralize the toxin of diphtheria.

But here comes in a very curious difference. The toxin that is elaborated by the tetanus bacillus affects only a few cells of the body. To the others it is perfectly harmless. If it could be kept away from these particular cells, even though the body might be injected full of toxin, still it would not hurt the patient. The curious thing is how it gets to these cells. The particular cells affected are nerve cells, and are situated in the brain and spinal cord. And they have long filaments leading from them out to all parts of the body. These filaments are all encased in a sort of sheath—very much like an electric wire when it is insulated. The only way the poison can get to the susceptible cell is to travel up that sheath, or tube, from the end. And as the sheath is very small, the toxin travels up it very slowly—in fact, it takes several days to get to the cell. And the patient does not get sick till the poison does get to the cell itself. Now, when the patient develops tetanus, that is lockjaw, that means that the poison has traveled all the way up the sheath and reached the susceptible cells. The first thought is to give anti-tetanic serum. But the serum has got to travel up the sheath in the same way that the toxin did, and before it can get to the cells, the patient dies, or recovers, as the case may be. What does all this mean? It means that if we wait till the patient develops lockjaw, it is no use to give anti-tetanic serum, as the case will terminate one way or the other before the serum can get to the seat of the trouble. It means that the time to give anti-tetanic serum is just as soon as the patient gets infected with the tetanus bacillus, for then the remedy will neutralize the poison before it reaches the susceptible cells, and so *prevent, not cure, lockjaw.*

The practical lesson is, whenever we get a wound, which we have reason to suspect might be infected with the tetanus bacillus, a dose of anti-tetanic serum should be given at once, for if we wait for symptoms to develop, it is eternally too late to do any good.

The State Board of Health deprecates the practice of giving anti-tetanic serum after lockjaw develops, but urgently advises its use in all cases of dirty wounds, especially those acquired about barns, and with firearms.

H. B.

*(To Be Continued.)*

## CUBA.

Major Jefferson Randolph Kean passed through Jacksonville this morning en route to Washington. Dr. Kean is practically at the head of the sanitation of Cuba, under Provisional Governor Magoon. While the details are carried out by the officials of the Cuban Government, the general direction of the work is largely in the hands of Dr. Kean, and his army of medical associates.

It is gratifying to the Notes to learn, through Dr. Kean, the splendid condition of Cuba. He confirms the reports of the Marine Hospital Service that the last case of yellow fever was in December, and dwells with pleasing emphasis upon the freedom of the island from that disease.

The NOTES is gratified to know that the sanitation of Cuba is directed practically by the United States Government, although recognizing the scientific ability of Dr. Finlay, Dr. Guiteras and others, yet the Notes has considered that of late, that is to say, immediately prior to second American intervention, there has been too much of the Alfonse and Gaston ceremony in dealing with sanitary methods of Havana, and in fact, all Cuba.

Feb. 4, 1907.

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#### DUTIES OF MUNICIPALITY AND STATE IN THE CONTROL OF TUBERCULOSIS.

By *G. Walter Holden, M. D.*, Denver.

It is the duty of municipalities and States to protect the lives, the property and the health of their citizens. The purpose of this paper is to bring to your consideration the relation of the State and the city to one disease—tuberculosis. At present States protect their citizens against other contagious and infectious diseases. Tuberculosis also should be under their control.

We know that tuberculosis is preventable and curable; yet we allow it to cost this nation 150,000 lives every year. Can we, as a nation afford to offer up this annual sacrifice when the general adoption of preventive measures, and their intelligent enforcement, will gradually reduce the alarming mortality, and in due time stamp out the disease?

The prevention of tuberculosis is one of the most serious social problems that the country has to consider today, and the first movement toward the solution of the problem has been made by the medical profession, many of whom have put aside all selfish considerations and are working for the greatest good of humanity. So much has been said and written on this subject and, in proportion to its importance, so little enthusiasm has been aroused, that it is extremely discouraging to those who have the matter at heart; but results can be obtained only by persistent effort in keeping the subject constantly before the public. The idea still prevails, even among physicians, that this is a matter which cannot be forced to an issue;

that the education of the laity must be a question of generations; and so, with few exceptions, they evade their obvious responsibility. The education of the mass of the people must, of course, be gradual, but certain immediate and valuable results may be reached by influencing the authorities charged with the responsibility of State and city Government.

#### STATE AND CITY BOARDS OF HEALTH.

One of the first of these should be the appointment to our State and city boards of health of men scientifically equipped to deal with this special problem, and these men should be invested with the necessary authority to act. Every State board should have for its secretary an efficient, energetic man to oversee and to keep vigilant watch over the condition of the public health throughout the commonwealth and to keep in touch with municipal health boards. His salary should be sufficient to enable him to give his entire time to the work.

It is of the utmost importance that every city secure the services of an energetic, fearless, aggressive man to captain the work of its board of health. His salary should be large enough to assure independent action, and the appropriations for his department should be sufficiently large to enable him to obtain results. He should be given the necessary authority, and thoroughly supported in its exercise. Remember that this is a campaign against ignorance and the indifference which arises from ignorance. Also the opposition of interests which thrive through conditions as they at present exist will be both persistent and powerful. Especially is this so in the enforcement of ordinances regarding food products and in the regulation of tenement buildings and districts. Unless the above is complied with, all ordinances and requirements are worse than useless.

It is not possible to discuss in this paper all the problems that must come before such boards for solution. I shall consider in a general way only those which have appeared to me of vital importance, after having corresponded with health boards throughout the country.

#### COMPULSORY REGISTRATION OF CASES.

Compulsory registration should unquestionably be universally adopted. In a few instances it is already in force. A great many objections to compulsory registration are constantly being raised, but this is something that must be expected in the case of any reform. It is a common misapprehension to infer that, because a case of phthisis is reported, the physician has in any way violated the confidence of his patient or branded him a social outcast. This is far from being the intention, nor in those cities where this system has been enforced has it been the result. The records of reported cases are open only to officials authorized to inspect them.

In the case of the indigent, careless consumptive, who is a source of constant danger to the community, registration is nec-

essary in order that some action may be taken toward improving his condition and the condition of his surroundings, and, if necessary, causing his removal to an institution where he will be under control. In the case of those under the care of reputable physicians no official action need be taken after notification unless the physician in charge especially requests it. It is assumed that a physician who can diagnose a case of tuberculosis and has reported it is competent to handle it.

It is the duty of the board of health to furnish the reporting physician with literature naming procedures and precautions to be taken by him in the care of the case, as well as necessary literature for the patient.

**MONTHLY BULLETINS**—State boards of health should issue monthly bulletins which should be sent to every practicing physician in the State. The monthly bulletins issued by the Kansas and Iowa State boards of health have recently been brought to my notice. They are a credit to the public spirit and professional ability of the gentlemen on these boards. They contain not only vital statistics, but discussions concerning problems of public hygiene and notice of what is being done in other states. The subject of tuberculosis is a prominent feature of these bulletins.

**THE SPITTING NUISANCE**—In considering the subject of the spitting nuisance, I can not do better than to quote from Dr. Foster, who has comprehensively covered the ground as follows:

“As to legal restraint on the spitting habit it is not necessary to dwell. We know that through indiscriminate expectoration more than in any other way tuberculosis is scattered broadcast. We know that the habit is filthy and inexcusable. We all know how much has already been accomplished in eliminating the evil practice that at one time was considered our chief national characteristic. Expectorating in public places should be legally prohibited and the public should be made to respect the law.

The manner of calling the attention of the public to the anti-spitting ordinances varies in different cities. Denver, being a mecca for consumptives, has a particularly hard problem to handle, perhaps the most annoying feature of which is indiscriminate expectoration in street cars. Here we find it necessary to place plain clothes men on the cars, with the result that the offenders are arrested, a fine imposed, and their names inserted in the daily press. The method of calling attention to the anti-spitting ordinance in New York City is to be commended. The police are furnished with a pad of printed slips, one of which the officer hands to any person seen expectorating on the sidewalk. One side of this slip reads:

You are Violating the Law Against  
SPITTING.

You are Subject to Imprisonment  
or fine, or both.

By Order of the Board of Health.

On the other side is printed the section of the sanitary code which is being violated. The unfortunate tendency of the average police officer, however, is to grow lax in enforcing the ordinance. While I should hesitate to recommend it, an effective stimulus to the performance of their duty could be found in allowing to the officer making the arrest a certain percentage of the fine imposed.

**DISINFECTION OF APARTMENTS**—The commissioners of health should have a ruling relative to all apartments previously occupied by consumptives. Such apartments should be considered infected and, when vacated by death or removal of their occupant, they should be disinfected by the board of health, and it should be the duty of the physician, or any other person having knowledge of such previous occupancy, to notify the local board of health. A person who rents to any one apartments previously occupied by a consumptive before they have been disinfected, should be considered guilty of a misdemeanor and fined.

**THE TENEMENT HOUSE**—Time will not permit me to discuss at length one of the vital problems in the prevention of tuberculosis—the elimination of the tenement house. We all know the danger that comes from overcrowding, and we know further how difficult it is to control it when money and influence are united to oppose legislation. We pay a heavy penalty for the maintenance of these evil conditions. When it is generally recognized that the spread of infection in the tenement districts jeopardizes the health of the entire community, rich and poor alike, more concentrated action will be taken and the necessary legislation will follow. In the meantime, it is the duty of the medical profession to do their utmost toward bringing this about.

**PUBLIC CONVEYANCES**—The State should pass more stringent laws governing the sanitation of railway sleeping cars and passenger coaches within its borders. If I am correctly informed, very few states have taken up this matter, although public opinion has forced many of the large railroads to adopt more sanitary measures than formerly, in order to avoid criticism. The states of Texas and Kentucky, however, have taken a definite stand in the matter, which other states would do well to imitate. Dr. J. H. Florence, acting health officer of Texas, has given me the recent regulations governing sanitation of railway sleeping cars in that state, rules which apply also to railway passenger coaches. These rules provide for the proper disinfection of sleeping cars and passenger coaches at stated intervals. They do away with the very dangerous practice of sweeping the cars in transit; they provide for the care and disposal of the expectoration of the passengers; they supervise the containers for drinking water and the handling of the ice.

The sanitary control of street cars and other public conveyances should receive more attention from city boards of health. These boards should enforce ordinances regulating the sweeping, cleaning

and ventilating of all such conveyances, in addition to the anti-spitting ordinance.

**INSPECTION OF DAIRIES**—On the supervision of the health of dairy herds and the cleanliness of their products there is much to be said. Public opinion is awakening to the fact that the milk of tuberculous cattle is a great source of danger, in spite of the unfortunate statement of Professor Koch, in 1901. Most cities already pay some attention to the quality of their milk supply, yet the health of dairy herds, the conditions under which the cattle live, and the handling of their products, do not receive proper supervision. Herd inspection should receive careful consideration by state and municipal boards of health, working in conjunction with the State Agricultural Department. All tuberculous cattle should be condemned and killed, after the tuberculin test has been made, the State defraying a portion of the loss. This matter has been carried out in Massachusetts and several other states, and the results, I am informed, have been very satisfactory.

Inspection of herds should be made oftener than once a year, the reason for this procedure being well explained in the following extract from a letter from Dr. Bracken, executive officer of the Minnesota State Board of Health, in answer to a letter of inquiry:

"There is a State law which provides for compensating owners who have tuberculous cows when the same are killed after showing reaction to the tuberculin test. An attempt was made in Minneapolis and St. Paul and Duluth to inspect the dairy cows. The attempt in Minneapolis and St. Paul practically was a failure for the simple reason that the herds are tested once a year and the cows purchased by the dairymen to replace the dead animals are not tested at the time of purchase. Still further, up to the present time there is no control over the cows that are furnishing milk that is shipped into the Twin Cities. In Duluth, the commissioner of health seems to have succeeded better, for he has passed an ordinance demanding that the dairymen should purchase only tested cows, and he has threatened that if knowledge comes to him of any dairyman selling milk from cows that have not been tested he will advertise the party in the daily press."

During the last four years the Department of Agriculture of the United States has suggested to the state experiment stations a more cleanly method of milking, through the use of a specially devised covered milk pail; the proper care of the herd and the use of this pail assure the consumer a cleaner, purer milk.

**INSPECTION OF SLAUGHTERED CATTLE**—The Federal inspection of slaughtered cattle intended for home consumption, as made in our large packing houses, is exceedingly inadequate, owing to the rapidity with which animals are slaughtered. The most careful inspection is given to meat intended for export trade, for Europeans have recognized the danger which comes from eating in-

fected meat; indeed, we are told that meat which is not considered salable in foreign markets is accepted and consumed by Americans. No one could have read the articles which appeared in the London Lancet in January, 1905, or present magazine articles in this country, without feeling that meat totally unfit for consumption is constantly placed on the home market.

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#### STATE AND CITY SANATORIA AND DISPENSARIES.

The question of establishing state and city sanatoria is a very complex one. Theoretically, indigent consumptives should be cared for by the state, but in this age, when politics enter more or less into the management of public institutions, the results are not yet all that could be desired. Recent reports prove that the most successful institutions of this character are those founded by private enterprise and charitable associations. If the indigent consumptives are to be housed and controlled, we can not have too many institutions for their care, and it is the duty of the state and city to do their share in the work. Large state institutions have proved themselves to be unwieldy, and the entrance of political considerations has seriously impaired their efficiency. A solution of this difficulty, at once largely eliminating the political features and greatly increasing the efficiency, would be the establishment by each county of an institution caring for the tuberculous of that particular community. These institutions should receive an appropriation from the state and be under the supervision of the state board of health, but the greater portion of the burden of their erection and maintenance should fall on the community whose citizens receive the care of the institutions.

The demands on every state and city treasury are enormous, and most officials hesitate to incur additional expense for work which does not appeal to them as vital. The first step toward gaining their co-operation in this movement is to convince them that it has an economic as well as a medical aspect. The effort to do so has been made repeatedly, and a temporary interest has been aroused. That the interest has not been permanent is due to lack of persistency on the part of the agitators. Moreover, for the care of the tuberculous who are charges of the state, the erection of elaborate buildings is unnecessary, and a cause of much discontent to this class after they return to home life. Adequate accommodations in which the best results can be obtained may be provided at a cost of from \$150 to \$200 a bed. This erection of inexpensive sanatoria is a matter which would enable cities, towns and counties to care for their tuberculous poor at a minimum cost and at a saving of many lives, for the isolation and control of each individual case removes one more focus of infection from the community. Many cities have free dispensaries, especially those in which medical schools are situated, but they should be in every city, supported by

municipal funds, and placed under competent medical direction. At such dispensaries it should be possible for poor consumptives to obtain free milk and eggs, as well as medical advice and treatment.

**THE PARKER HILL EXPERIMENT**—During the summer of 1905 the Boston Association for the Relief and Control of Tuberculosis conducted an experiment worthy of more than passing notice, in establishing the Parker Hill Day Sanatorium. This was under the supervision of, and its success was largely due to, Dr. David Townsend. I quote from the report of the committee appointed by the Suffolk District Medical Society to investigate the crusade against tuberculosis in Boston:

"In an orchard on Parker Hill rude structures and tents were erected, and here consumptives from the tenement districts of the city were provided for during the day. They were given lunches and dinner, medical supervision and nurses' care, and at night returned to their homes, to repeat the same thing the next day. This new departure has met with the approval both of the public and the profession, and has accomplished two objects, the improvement of the patient's condition, and his education, and, through him, that of his family, in the open air cure and hygienic modes of living."

I am not familiar with the further reports concerning this movement, but it is one worthy of emulation by organizations in other cities, and should receive support financially and otherwise from city authorities.

**PROPHYLAXIS FOR GOVERNMENT EMPLOYEES**—Washington, D. C., being under the Federal government, presents conditions which are unique. President Roosevelt has shown himself thoroughly alive to the essentials of the problems with which we are dealing. He has urged before two sessions of congress that Washington be made a model city in all respects, a model to the municipalities of this country. He has given special attention to the problem of tuberculosis.

After receiving a report from the committee appointed by an executive order of December, 1905, to prepare a plan for the prevention of tuberculosis in government workshops, he issued an order directing that the head of each department in Washington should see that the rules prepared by this committee should be posted in every public building under his control; that names of persons in his department afflicted with tuberculosis should be ascertained and a copy of the rules be presented to each; that non-observance of the rules may at the discretion of the department head be considered just cause for separation from the service. The order further provides that, when there is doubt as to a person in the government service being afflicted with pulmonary tuberculosis, an order must be issued for an examination at one of the government laboratories, and that a certificate showing the result of that examination must be presented to the department. When a government laboratory is not accessible, examination shall be made at the government ex-

pense. This order applies also to the employes in government buildings and workshops belonging to the Army and Navy and to the Marine Hospital Service.

Through the efforts of the President, much will undoubtedly be done in Washington toward supressing tuberculosis. For his initiative he deserves the thanks of all those who have this problem at heart.

We recognize that the greatest problem before the profession today is that of the suppression of tuberculosis. Its solution does not lie in the cure of the individual case; if we had in our hands today a specific, the problem would still remain unsolved. The disease is primarily a disease of communities; it obtains a foothold and exists in the country only through ignorance of the means of its transmission and the modes of its infection. The most direct and effective blows against its strongholds must be dealt by municipal organizations. It is not a problem for the student and recluse alone, but to his talents must be added those of the man of action and executive ability. We are already in possession of sufficient scientific knowledge to deal with the problem; there remains the necessity of public education and the working out of business details.

While the profession may not agree on all minor points as to treatment, suitable climatic conditions, and general management, on certain broad principles we may stand as one man. Some of the best work that is being done in the country today is being done by enthusiastic, unselfish men, who are working along the lines which have been already successfully followed in the hardly won victories of the last half century over other specific infectious diseases.

Speaking from the standpoint of a specialist in tuberculosis in charge of an institution, I recognize that the eradication of the disease does not lie in the successful treatment of the individual case, but rather in the control of the disease, and the elimination of those vicious conditions which give it rise, by state and municipal organizations; along these lines, the best energy of a united and public-spirited profession should be concentrated.—Journal of American Medical Association.

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"The Henry Phipps' Institute for the Study, Treatment and Prevention of Tuberculosis," was endowed by the man whose name it bears and founded four years ago in Philadelphia. It has a hospital for advanced cases of tuberculosis, a research laboratory and a free clinic. That means a place where out-door patients come to be treated. Trained nurses visit the home of these patients and instruct them how to keep from infecting themselves further, and how to keep from infecting others. The institute is maintained especially for indigents. Those who can pay are directed to go elsewhere. They have a capacity for fifty-two patients and six physicians are kept on duty in the hospital. It is to be borne in

mind that this is primarily for advanced cases. The following rules of conduct govern the patients:

1. Don't spit on the pavement, on the street, nor into any place where you cannot destroy the germs which you spit up.
2. Do not swallow any spit which comes up from your lungs or which comes out of the back part of your throat.
3. Spit into a cup when it is possible to do so.
4. Always use a spit cup with a handle to it, so that you can hold it close to your mouth.
5. When you use a china or earthenware spit cup, always keep lye and water in it, and scald out the spit cup once or twice a day with boiling water.
6. When you use a tin spit cup with a paper spit cup inside, burn the paper cup at least once a day and scald the tin cup with boiling water.
7. Never use a handkerchief or a rag or any material other than paper to spit in or wipe your mouth with.
8. When you cannot spit into a spit cup, spit into a paper napkin.
9. Always use a paper napkin to wipe your mouth with after spitting, and be careful not to soil your hands.
10. Always carry a cheap paper bag in your pocket or caba to put paper napkins in which you have used.
11. When you have used a paper napkin, either to spit in or to wipe your mouth with, fold it up carefully and put it away in a paper bag.
12. Every evening, before going to bed, burn your paper bag, together with the napkins which you have deposited in it.
13. Do not let any spit get on your clothing, or your lips and hands, or your bedclothes, or carpets, or furniture, or on anything about you, wherever you may be.
14. If, by any accident, any spit should be deposited anywhere else than in your spit cup or in your paper napkin, take pains at once to destroy it, either by taking it up and putting it in the fire or by putting lye water on it.
15. If you have a moustache or beard, shave it off or crop it close.
16. Always wash your lips and hands before eating or drinking, and rinse out your mouth.
17. If you have a running sore, take up the matter which is given off with absorbent cotton and burn it.
18. Avoid handshaking and kissing. These customs are dangerous to you as well as to others. They may give others consumption; they may bring you colds and influenzas, which will greatly aggravate your disease and may prevent your recovery.
19. Do not cough if you can help it. You can control your cough to a great extent by will power. When you cough severely

hold a napkin to your mouth, so as not to throw out spit while coughing.

20. Sit out of doors all you can. If you have no other place to sit than on the pavement, sit on the pavement in front of your house.

21. Don't take any exercise except upon the advice of your doctor.

22. Always sleep with your windows open, no difference what the weather may be.

23. Avoid fatigue. One single fatigue may change the course of your disease from a favorable one to an unfavorable one.

24. Go to bed early. If you are working, lie down when you have a few moments to spare.

25. Don't take any medicine unless it has been prescribed by your physician. Medicine may do harm as well as good.

26. Don't use alcoholic stimulants of any kind.

27. Don't eat pastry or dainties. They do not nourish you and they may upset your stomach.

28. Take your milk and raw eggs whether you feel like it or not.

29. Keep up your courage. Make a brave fight for your life. Do what you are told to do as though your recovery depended on the carrying out of every little detail.

30. Always keep in mind that consumption can be cured in many cases, and that it can be avoided in all cases.

31. If your own disease is too far advanced for you to recover, console yourself with the idea that you can keep those who are near and dear to you from getting it.

We are pleased to announce that Dr. J. J. Kinyoun will have charge of the laboratory of the State Board of Health for a few months.

Dr. Kinyoun needs no introduction. Having had charge of the hygienic laboratory of the Marine Hospital Service in Washington, and late in charge of the biological laboratories of the H. K. Mulford Company of Glenolden, Pa., he is well known to the medical profession. We are fortunate in getting his services, even for a limited time.

It is a rather singular coincident that sometimes happens that teacher should succeed pupil in official capacity. Dr. Kinyoun was the teacher of the late Dr. Andrade.

We note with regret the resignation of Dr. Josiah Forest Kennedy, secretary of the State Board of Health of Iowa. Dr. Kennedy has held this responsible and honorable position for twenty-two years, and has reflected great credit upon his State. His long and

faithful career in public service has earned for himself an enviable reputation as a health officer, and we hope that the future has in store for him many years of domestic happiness.

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# FLORIDA HEALTH NOTES

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Tampa, Fla.

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Offices:

Jacksonville, Dyal-Upchurch Building.  
Key West, Room 10 Monroe County Court House.

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Vol. 1

MARCH, 1907.

New Series No. 9

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### THE REAL AND THE FALSE IN SANITATION.

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fortunately the wrong way appears always to have the preference, and can be explained as affording the newly made health official an opportunity to attract attention by endeavoring to immediately bring about a radical system of reform. Unlike other police regulations, health ordinances to be efficacious must have the support of the moral sentiment of the community as well as the strong arm of the law. There are so many ways by which a health requirement can be evaded without punishment following, that other means than fear must be sought to persuade men and women that self interest, if nothing else, dictates a close observance of hygienic and sanitary laws. The official who would increase the benefits supervening upon a proper observance of nature's laws, must first gain the confidence of the community wherein his duties are to be discharged, and this confidence can only be obtained by conservative action, supported by sound judgment and conscientious motives. There is so much quibbling of terms used in the construction of health ordinances, which are not important and only demonstrative of authority, as to be not infrequently annoying and harrassing to the public, and it is no wonder that the public protest. The wonder is that a protest is not oftener made against useless demands enforced in the name of health, which can be styled sins against sanitation; which the Goddess Hygeia has to patiently and needlessly bear on her shoulders.

There is a marked difference between real and false sanitary measures. The one is educational in character, appealing to common sense and moral obligations; the other is a sham, and being sensational in character, assumes under the guise of "brag and bluff" to delude the public and frighten the timid. It is believed that health officials would experience less opposition in carrying out reasonable views on hygiene and sanitation if an effort was made to enlighten the public on health matters and to demonstrate the necessity for observance of measures which will prevent sickness and better the health conditions of the citizens of the State. It is true that there have been times, and such periods may be expected to again occur, when the public is unreasonable and its moral sense of right and wrong is appealed to unavailingly. The force will have to be used to save the innocent from the stubbornness of the ignorant and fanatic; these occasions, however, will gradually grow less in frequency if a plan of sanitary teaching is entered upon and the public is instructed upon the blessings which good health brings to its followers in happiness and prosperity, and the amount of misery and poverty which trail in the wake of disregard of nature's law.

True sanitary instruction is an address to the intelligence of the reader and hearer, and an appeal to the better elements of the moral and physical being, while false sanitary teaching may be styled an effort to make prominent a deception and a means to mystify the ignorant and annoy the better informed.

The Notes strives to lay before its readers only those subjects

in sanitary science which are reasonable of understanding and practicable in execution. It asks not for the accomplishment of impossible acts in the hygienic management of municipalities or households, but pleads only for a closer attention in these matters to the smaller details of domestic life; for no one can be too watchful either of himself or neighbor in all things in which health or life are concerned. Cleanliness is not only akin to godliness, but cleanliness is Godliness, and the perfect man and woman must be clean in soul, mind and body.

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### SIMPLE SCIENCE TALKS—*Continued.*

Speaking of malaria and yellow fever being transmitted by mosquitoes, people often ask: "Where did the mosquito get it?" When answered "from another patient," they ask where the other patient got it, and "Where did the first case come from?" I am going to try to answer that question now, as far as it can be answered at the present state of our knowledge. And in this attempt I feel that I can't do better than to quote the following from the pen of Henry Drummond, published in 1883:

### BIOGENESIS.

*Omne Vivum ex Vivo.*—*Harvey.*

"For two hundred years the scientific world has been rent with discussions upon the Origin of Life. Two great schools have defended exactly opposite views—one that matter can spontaneously generate life, the other that life can only come from pre-existing life. The doctrine of Spontaneous Generation, as the first is called, has been revived within recent years by Dr. Bastian, after a series of elaborate experiments on the Beginnings of Life. Stated in his own words, his conclusion is this: 'Both observation and experiment unmistakably testify to the fact that living matter is constantly being formed *de novo*, in obedience to the same laws and tendencies which determine all the more simple chemical combinations.' Life, that is to say, is not the Gift of Life. It is capable of springing into being of itself. It can be spontaneously generated.

This announcement called into the field a phalanx of observers, and the highest authorities in biological science engaged themselves afresh upon the problem. The experiments necessary to test the matter can be followed or repeated by any one possessing the slightest manipulative skill. Glass vessels are three-parts filled with infusions of hay or any organic matter. They are boiled to kill all germs of life, and hermetically sealed to exclude the outer air. The air inside, having been exposed to the boiling temperature for many

hours, is supposed to be likewise dead; so that any life which may subsequently appear in the closed flasks must have sprung into being itself. In Bastian's experiments after every expedient to secure sterility, life did appear inside in myriad quantity. Therefore, he argued, it was spontaneously generated.

But the phalanx of observers found two errors in this calculation. Professor Tyndall repeated the same experiment, only with a precaution to ensure absolute sterility suggested by the most recent sciene—a discovery of his own. After every care, he conceived there might still be undestroyed germs in the air inside the flasks. If the air were absolutely germless and pure, would the myriad life appear? He manipulated his experimental vessels in an atmosphere which under the highest of optical purity—the most delicate known test—was absolutely germless. Here not a vestige of life appeared. He varied the experiment in every direction, but matter in the germless air never yielded life.

The other error was detected by Mr. Dallinger. He found among the lower forms of life the most surprising and indestructible vitality. Many aanimals could survive much higher temperatures than Dr. Bastian had applied to annihilate them. Some germs almost refused to be annihilated—they were all but fire-proof.

Those experiments have practically closed the question. A decided and authoritative conclusion has now taken its place in science. So far as science can settle anything, this question is settled. The attempt to get the living out of the dead has failed. Spontaneous Generation has had to be given up. And it is now recognized on every hand that Life can only come from the touch of Life. Huxley categorically announces that the doctrine of Biogenesis, or life only from life, is "victorious along the whole line at the present day." And even whilst confessing that he wishes the evidence were the other way, Tyndall is compelled to say, "I affirm that no shred of trustworthy experimental testimony exists to prove that life in our day has ever appeared independently of antecedent life."—Natural Law in the Spiritual World.

Though this was written nearly twenty-five years ago, not a single fact has since been elucidated that contradicts it. But on the other hand, it has received corroborative support from every line of biological observation. So today it stands as the universal verdict of the human mind that all life is from life—*Omne vivum ex vivo*—that every animal, whether as large as an elephant or as small as the malarial parasite, sprang from another of its kind—that every plant, whether growing in the ground, as an oak; or growing in the water, as a lily; or growing in the intestines of the human being, as the colon bacillus, or the typhoid bacillus, came from parents like itself—that every living organic thing, whether animal or plant, whether large or small, is the offspring of its own species. Whether it came directly from the mating of the two sexes, as the higher animals do, or whether from an egg, as the fowls; or whether

the parent form divides its own body into two or more segments each of which becomes a mature organism, as the malarial parasite, makes no difference—the law remains unchanged, immutable—every living organic thing came from a parent of its kind.

Having that settled, we will go a step further. Take a case of some disease, as diphtheria, say. It is due to the action of the diphtheria bacillus. This bacillus we have already seen is a vegetable organism—a unicellular plant—a living thing. It therefore sprang from a parent organism. Now that parent was likewise a living plant which also came from a like parent. Thus it follows that every case of diphtheria is due to diphtheria bacilli, that came from parents of the same kind, and that these parent germs had likewise been producers of other cases of diphtheria. So also with typhoid fever. It is due to the typhoid bacillus, a living vegetable organism, and therefore the offspring of other typhoid bacilli. And the parents were also producers of typhoid fever.

Let's stop and get the relation of a disease to its causative germ straightened out. The germ causes the disease and exists with it, so in a disease, as diphtheria, there is present, both the cause, that is, the germ of diphtheria; and the result, that is, the sickness. So when we say a case of diphtheria came from another case, we mean that the germs causing the case came from the germs causing the other case. So with typhoid fever, or smallpox, or any other communicable disease. Hence the law of diseases: that every case of disease caused by a living organism came from another case of the same disease. Having mastered this fact we are ready to go a step further. We have seen that every living thing comes from another of its kind, and that every case of communicable disease which depends for its existence upon a living thing, likewise of necessity comes from another of its kind. We are now in position to enquire into the question of where the first living thing came from—the first man, the first oak, the first diphtheria bacillus and the first child that it gave diphtheria; the first malarial parasite, and the first human being that this parasite gave "chills and fever; and the first mosquito that transferred that malarial parasite to another human being. Do you realize the magnitude of the question when you enquire where the first case came from? Do you realize that this question has vexed the human mind from the beginning? That it is as impossible to tell who first asked this self-same question as it is to answer it? Do you realize that it calls into question the "origin of man?"

I promised to answer as far as it can be answered at the present state of our knowledge; it is simply this: that the human mind has not yet determined where the first of any living thing came from. But while we do not know the origin of a single living thing, we do know the life history of many animals and plants. For instance, we know how a grain of corn when planted springs up and bears an ear with many grains like the one planted, but we

know of no other way in which a grain of corn can be produced. If we had no corn and wanted to get some, we know of no other way than to get it of some one who has it. With all our familiarity with corn we do not know where the first stalk came from. Likewise the malarial parasite—we know how it grows, how it reproduces, how it is transmitted through the mosquito to other individuals; but we know no more about where the first germ originated than we know about the origin of the first stalk of corn. And if we wanted a malarial germ to experiment with, we know of only one way to get it, and that is like the corn, from some one who has it.

Furthermore, it does not especially concern us to know where the first case of any disease came from. It would be interesting information, but in no wise essential. But it does vitally concern us to know how any given disease is transmitted so that we may better avoid contracting it.

H. B.

*(To Be Continued.)*

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### MEANS OF DESTROYING MOSQUITOES.

All treatment of breeding places comes under one of two heads: Temporary or Permanent. If we pour oil on a pool to prevent mosquitoes breeding, we have resorted to a temporary expedient that must be repeated at regular intervals throughout the breeding season and year after year or we reap no practical good, for as soon as our efforts are relaxed, they breed in as great numbers as ever and in many instances, greater, for the oil not only kills the larvae of the mosquito, but it also kills other aquatic life which feeds on the larvae of mosquitoes and thereby keeps them from breeding in such great numbers. It should be our constant aim never to resort to temporary expedients when a permanent one can be instituted.

The killing of mosquitoes in a room by fumigation is a temporary expedient to get rid of them when the doors and windows are left unscreened, for within a few hours after the fumigation is done, the room will be as full as ever.

The screening of a house to keep mosquitoes out is a permanent expedient and should be resorted to wherever mosquitoes prevail. Screens not only keep mosquitoes out, but likewise flies, roaches, electric light bugs, "wolf moths," and many other insects that are annoying. In this latitude at least screening should be looked upon as a necessity.

Mosquitoes breed in ponds and streams but not to any great extent where fish, especially minnows, abound. Top minnows feed on the larvae and do not give them time to come to maturity, and where the edges slope gently and are overgrown with grass they not infrequently breed in this grass where the fish cannot get to

them. In such places a little canalizing to make the edges abrupt and to reduce the standing or running water to well-defined bounds will enable the fish to get at the wigglers and will keep such places from breeding mosquitoes.

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### MINERAL WATERS.

Did you ever hear of going to "The Springs" for one's health? And did you ever read of all the things in the water? How much of this and that and something else they contain? Here is a sample:

Sodium carbonate .....	So many grains
Sodium bicarbonate .....	So many grains
Sodium chloride .....	So many grains
Calcium sulphate .....	So many grains
Magnesium sulphate .....	So many grains
Sodium sulphate .....	So many grains
Silica .....	So many grains
Magnesium carbonate .....	So many grains

But doesn't it sound good? Who wouldn't improve drinking water with all these names in it? What wouldn't these big names cure anyway? Now let's read it again:

Washing soda .....	So many grains
Baking soda .....	So many grains
Table salt .....	So many grains
Plaster-of-paris .....	So many grains
Epsom salt .....	So many grains
Glauber's salt .....	So many grains
Sand .....	So many grains
Face powder (made from washing soda and epsom salt). Pshaw!	

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Key West has a population of some 22,000 people. During the year of 1906 there were reported in that city 22 deaths from tuberculosis. If that is an average death rate for the State, Florida contributed more than six hundred to the victims of tuberculosis last year. If the average length of sickness is four years, there are two thousand four hundred persons suffering from tuberculosis in this State today. If during his sickness every consumptive infects one individual, the disease will neither wax nor wane—if more than one it will increase. When a consumptive infects another it is apt to be a member of the household—that is why consumption was long thought to be inherited. Who is most largely responsible for the spread of consumption, the sick or the well? If the sick, why? If the well, what is the remedy? Think this over and read the following:

## COMPULSORY REGISTRATION AND FUMIGATION IN PULMONARY TUBERCULOSIS, THE TWO MOST IMPORTANT OF ALL PREVENTIVE MEASURES.

By George H. Kress, M. D., Los Angeles, Cal.

Compulsory registration and fumigation, when applied to pulmonary or lung tuberculosis (a disease also widely known by the name of consumption or the great white plague), have reference to the compulsory notification of the city, county, or State Health Officers, by the attending physicians, of the name and residence of every patient suffering from this widespread disease which comes into the hands of those physicians for treatment, to the end that, on the one hand the infection of healthy citizens might be prevented, and that on the other, the patient might be prevented from re-infecting himself.

In the system of compulsory registration and fumigation of pulmonary tuberculosis no placard or sign is placed on the house, as is the case in diphtheria or scarlet fever. In these latter diseases the chances of infection by simple contact are much greater than in tuberculosis, tuberculosis being a disease that requires for infection, as a rule, very close and somewhat prolonged contact with an infected person, room, furnishings or clothing, the danger in this chronic disease lying more in the fact that the millions and billions of germs which each consumptive expectorates in a short time so infect the room or furnishings that it is almost impossible for subsequent occupants to inspire dose after dose of the germs, and if such persons be below par physically the chances of their becoming infected with tuberculosis are very great.

Coming back to the system of compulsory registration, if our lay citizens could only understand that the system of compulsory registration of tuberculosis patients (life-saving measures of a scope so great that only those who have studied the tuberculosis problem are in a position to appreciate their value) means not the least hardship, embarrassment, or inconvenience to family or patients; and further, that it means not the smallest iota of publicity, and that, so far as the outer world and neighbors are concerned, the patient stands in the same relation as today, except that the opportunity or privilege of infecting his relatives, friends and fellows, and of re-infecting himself, is denied him, there would be none of this opposition to one of the most beneficent measures in the prevention of the world's great scourge, which we sometimes see manifest itself when this system of compulsory registration and fumigation is advocated.

In speaking of the deaths from pulmonary tuberculosis, due to criminal negligence of proper regulations on our part, we have

been tempted to characterize them as murders, for, in the ethical sense, is it not murder, when human life is taken by means that we know could easily be prevented? Is it ethically any less a crime to infect an individual and cause his death by slow degrees from disease, and perhaps have him in time infect and cause the death of others near and dear to him (setting in motion an almost endless chain), than to kill him outright with bullet, knife, or other weapon, recognized as such in law? Is a human life not always a human life, and if it be sacred and worthy of protection from one class of weapon and preventable death, should it not also be sacred from all other types of weapon and preventable death?

And the germ or bacillus of tuberculosis is nothing else than a weapon of death, a wagon of death in such constant use that it undoubtedly causes many times more mortality (one out of every ten persons dies of the disease) and certainly a vast deal more of mental pain and physical suffering than all the murderers in the usual sense, on whom the law seeks to expiate such crimes.

It is a fundamental obligation on the part of a State to take steps to protect its citizens from preventable death. If the sputum containing millions and billions of germs of tuberculosis which is spread broadcast in California by our fellow citizens from the East, who come here in search of health—if this germ-containing sputum could be rendered innocuous before it has an opportunity to infect healthy citizens, hundreds of lives would be saved to this Commonwealth. The Golden State, because of its climate, draws consumptives to its confines by the hundreds. These consumptives infect rooms and bed clothing and make these places dangerous to subsequent occupants. The poorer the consumptive (almost fifty per cent of our consumptives who come hither from the East are virtually penniless), the meander and more crowded his boarding house, and the greater the chance of having his sputum be the cause of infecting his fellows.

When we know that the periodical fumigation of rooms which have harbored consumptives would prevent the larger proportion of these deaths and misery, and when these measures can be instituted without the least hardship or embarrassment to anybody, is it not almost a crime to refrain from bringing such measures into existence?

What now, do the terms compulsory registration and fumigation comprehend? In a few words, they are methods intended to destroy the bacillus of tuberculosis, i. e., the germ, without the presence of which in his body no person can have tuberculosis, and in destroying these dangerous germs the lives of many citizens would be saved.

If infection cannot take place without the germ, then if you kill all the germs there can be none, or at least only a minimum amount of tuberculosis. Now that is what compulsory registration and fumigation aim to do.

The system known by that name aims to give to our health offi-

cers the name and residence of every consumptive, so that every such person may be instructed to destroy his sputum (for it is in the sputum or expectoration that the germ reaches the outer world), and it is to be remembered that the twenty-four-hour sputum of a single consumptive may contain not only millions, but possibly several billions of the germs.

When such a consumptive person changes his residence or dies, the room is fumigated, so that its next occupant is in no danger of infection from tuberculosis. Hotels, cheap lodging houses and second-hand establishments should also be periodically fumigated.

**ALL THIS IS DONE WITHOUT PUBLICITY**, no placard ever being placed on the house, and none but the county or city health officers and their delegated deputies knowing the names of the persons reported as having the disease. If the attending physician certifies that the patient is observing all proper hygienic requirements and is carefully destroying his sputum, and will vouch for the proper fumigation of the rooms according to health office requirements, the health office will never trouble the patient or his family or the owner of the property.

When an ignorant or vicious patient disregards all hygienic requirements, and refuses or is unable to appreciate the importance of destruction of sputum, then if a deputy or nurse from the health department, sent at the request of the attending physician, is unable to make such a criminally ignorant or vicious consumptive do these things, the health officer should then have the power to order such a person to a hospital where he can not endanger the lives of others.

Are these measures mere theories? No, for by means of them, in connection with new tenement house laws, the city of New York in less than twenty years was able to reduce its mortality rate from tuberculosis by more than forty per cent, and Berlin and other continental cities, as well as a half hundred cities in our own land, have followed the lead of New York and likewise have inaugurated these measures.

Owing to the influx of Eastern consumptives into not only our large cities, but the smaller towns and country districts of California, there is an especial need of a State law making the registration of all persons suffering from tuberculosis, and the periodical fumigation of rooms, compulsory.

In brief, these measures are logically indicated because of the following facts:

(1) Tuberculosis or consumption can not exist without the presence of its special germ.

(2) For all practical purposes, the germ that is present in an infected person has come from the dried sputum of some previously infected person.

(3) Therefore, if you can destroy all the sputum, you can kill all the germs and you have no newly infected persons.

(4) To destroy the sputum containing these germs you must first know where the persons live who produce this kind of sputum.

(5) Therefore, it becomes necessary for physicians to report to the city, county, or State health officers the names and residences of all tuberculous patients.

(6) Steps are then taken by physicians and health officers (with the greatest possible privacy) to instruct the patient how to destroy his sputum.

(7) And when the patient changes his residence or dies the rooms in which he lived are fumigated (without publicity), so that subsequent occupants are in no danger from infection.

(8) Provision is also made that consumptives living in unhygienic surroundings be instructed as to destruction of sputum, and when they ignorantly or viciously refuse to do this, that the health officer have the power to have them removed to a hospital, where their carelessness would be so safeguarded as to prevent them from being a menace to the lives of others.

(9) In conclusion, the measures are humane, considerate and logical attempts to destroy the germ that causes the disease, so that lives that are now needlessly sacrificed by hundreds and thousands may be saved.

(10) For be it remembered that infection in many, many cases means death, and death from preventable sources takes on a criminal phase—aye, in some cases, if not legally, then ethically, becomes

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#### SEWAGE DISPOSAL.

The very existence of a question of sewage disposal depends on the inherent selfishness of man. If everyone, both individuals and communities, followed the Golden Rule and decisively and consistently refused to do anything which could interfere with his neighbors' happiness or health, there would be no sewage disposal question. Human nature, however, is essentially selfish, and as long as it is cheaper and easier for a farmer to build a privy over a stream than to dig a cesspool, or for a city to empty its outfall sewer directly into the a river than to first purify the sewage, just so long will these methods continue to be employed regardless of the consequences, unless some higher power intervenes.

The above-mentioned practice is certainly revolting enough to deserve condemnation, and it is a startling evidence of man's selfishness that such things are done. But a municipal conscience is very small and feeble, and the plea of "didn't think" has no more effect than "don't care," after an epidemic has been started.

Of all the data which modern science has established, the fact that certain diseases are directly caused by impure drinking water is of the greatest importance and benefit. It is now a matter of

common knowledge that vaccination prevents smallpox; that anti-toxin removes the dread of lockjaw and makes diphtheria curable; that consumption, not too far advanced, can be arrested; but that cancer and meningitis are still mysterious diseases. Typhoid fever and diarrheal disturbances are known to be among the list of water-borne diseases (that is, communicated by drinking water), and it is no exaggeration to say that if all drinking water were pure, typhoid fever would be stamped out. The very thought of drinking sewage is nauseating. No one, knowingly, would drink from a brook which drained a barnyard or a privy. The sight of a stream of drinking water winding in and out among piles of manure, no matter how clear and pure the water might appear, would turn any stomach, and only extreme thirst could make such water palatable. And yet typhoid fever is introduced into water in just such a way. Somewhere, somehow, some man, woman, or child has acquired typhoid fever. The bowel discharges of the patient are thrown down a privy, into a barnyard, into the fields, into the sewer, or even directly in contact with food. The sewage is carried or is washed down to a stream, the water from which runs ultimately into a reservoir. Some city drinks the reservoir water and an epidemic ensues. The department of health, among its other duties, is charged with the task of preventing such an outrage.

There are two questions which suggest themselves, when such a picture is presented:

1. Has the farmer the right to build a privy or have his barnyard where he pleases on his own land?
2. Will not the agency of typhoid be lost, or destroyed, in a stream after traveling a certain distance?

The first question can be answered definitely in the language of common law, that every man must so use his own property as not to injure or destroy the property of another. Not long ago, John Mitchell, in making an appeal before President Roosevelt, said, with great emphasis, that he represented the claim of two million people. The President instantly replied that he stood for the rights of eighty million people. It is by this principle that the department can prevent one man from doing what will imperil thousands, so, no matter what a man or a community does, if it tends to injure the health of other communities, the department, by its constitution is bound to prevent such an abuse of private rights.

The second question cannot be so definitely answered. Severe epidemics have been caused by privies, built over small streams, ten miles above a waterworks intake. Cities like Cohoes, which take their drinking water from a river into which other cities have discharged sewage, invariably have a high death rate from typhoid fever, even though the sewage discharge is many miles up stream. In the recent controversy between Chicago and St. Louis, experts testified that it was quite possible for the typhoid germ to journey in the sewage from Chicago down stream to the St. Louis waterworks

intake, a distance of over two hundred miles. It is necessary for the department of health to adopt a safe policy, and when a city or village takes its water from a stream, it is incumbent on the department to see that all possible danger of infection from sewers, privies, cesspools, or barnyards is eliminated. Fortunately, the dangerous elements in sewage can be entirely removed by a proper system of treatment, and it is evident that such a system ought to be, and must be, installed whenever a city discharges sewage into any stream subsequently used for drinking water. It is a pity that every community does not voluntarily assume this responsibility. In olden days, no crime was so atrocious as that of poisoning wells, and even in times of war the moral sense of those heathen nations was sufficient to prevent such a convenient way of destroying a nation's enemies. But in these days, one city poisons another's water supply without the least hesitation and with little or no protest except from the State Department of Health. The duty of the department, however, is plain, and it remains for it to point out to each community the proper and most efficient means of removing the poisons from the sewage effluents.—*Bulletin New York State Board of Health.*

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#### CLIMATE AS A FACTOR IN TREATING TUBERCULOSIS.

The experience of one individual counts but little, even the experience of one nation is not to be considered conclusive in matters of great import; but when all nations in every age of the world assert that a change of climate is surely conducive to health, it must be accepted as fully as any fact known to science.

This view is perhaps, adopted more fully in our country than any other. Fully half a million health seekers crowd the steamships and railroads every year, seeking in Europe, the Pacific Slope, or the Sunny South, some favored climate to restore an exhausted physical system.

To the consumptive, more than any other class, a change of climate seems beneficial. It is apparent to all that a change from the congested city, with its noise and dust, to the pure air of the country is demanded; but it is found equally beneficial to people of wealth who have luxurious homes with every attention from their family physician, those who are merely run down. In one case the cessation of labor, the improved hygiene causes improvement; in the other the relief from the worry of business, with out-door exercise and new environments, builds up their strength and prolongs life.

The selection of a suitable climate for a consumptive is a serious matter deserving great consideration. No one with heart troubles should select a high elevation, as the increased heart action is not

only unpleasant but positively injurious. Others, weak and debilitated, do not gain at the sea level. Errors in selecting a proper altitude has caused the death of many. Of late years a dry climate has been recommended as best for any form of tuberculosis, but of this we have not been convinced. Personal observation and experience leads us to believe that air with a moderate humidity is the best for any invalid with this complaint. Dr. W. C. Graham, of Miami, Florida, has possibly paid more attention to the action of air in relieving diseases of throat and lungs, than any physician in the South. He has visited all sections of our country from the Atlantic to the Pacific, carefully noting the effect of dry air on his own lungs as well as on many of the patients he examined. His opinion is that dry air increases coughing and ~~renders~~ ~~renders~~ expectoration difficult.

Consumptives should be guided largely as to a proper section to secure the benefit of climate, by consulting their physician. The consensus of opinion as to the best climate for a consumptive is that the location should be at a moderate height above sea level, with normal humidity of air. That it should have an equable, mild climate enabling invalids to live an open air life with great personal comfort. That the location should possess good water and comparative freedom from dust or annoying insects. We might add in addition the facility to obtain fruits, vegetables, meats and various other nutritious foods.

Florida is fortunate in possessing a climate especially suitable for consumptives. It is known by all our physicians that there are few cases observed that fail to improve while sojourning with us. In almost every village one can find citizens now in robust health, who came here a few years ago suffering with some form of tuberculosis. Some were cases far advanced.

The following favorable opinions of our climate for consumptives by a prominent physician of New Haven, Conn., who is a director in the national association for the study and prevention of tuberculosis, expresses the general opinion of experts in lung troubles who have spent some time in our State: "As fashion changes, so climates gain or lose in popularity. For the past few years Florida has been regarded with disfavor by physicians in our part of the country. This is all wrong. I believe, from personal knowledge, that for the tuberculosis of the nervous type, Florida is the best climate in our country. I went there in 1869 when it was in full tide of prosperity as a health resort. I lived for three years in a little log house in the pine woods. There I recovered my health and was able to return and take up the study of my profession."

For an extended description of our delightful and equable climate, read article on Florida in Encyclopedia Britannica or American Encyclopedia. (Appletons).

The fountain of health ascribed to Florida, by the Latin race

centuries ago, and sought for by Ponce de Leon, is not all in our pure water, but, as well in our pure air passing through our forests charged with ozone and rendered delightful to breathe by the resinous balsams of the pines.

JNO. E. ENNIS, M. D.

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The State Board of Health has recently been called upon many times for vaccination certificates upon the grounds that applicant had been vaccinated two or more times and it did not take. In some cases they acted in good faith, believing they were natural immunes. In other instances they were simply trying to evade the regulations and would show temper when informed that *the Board issues certificates only to those who have actually been successfully vaccinated and are honestly entitled to them.*

But in any event, here is a little modicum of information that is worth knowing; namely, that virus loses its potency in a warm latitude much more rapidly than it does in a cold country, and likewise virus maintains its potency much longer when kept on ice than it does at room temperature.

Before we stumbled upon this fact we used virus right up to the time it was labeled to expire, and as a result, of course, we got no takes after the virus had been kept here a short while, even though, judging from the label, we supposed it was still fresh. But now we *get virus in small quantity, keep it on ice till used, and do not use it after it loses its potency, consequently, our vaccinations take, even though the applicant has been vaccinated unsuccessfully any number of times. Our uniform success leads us to assume there are no natural immunes.* We have come to know that when primary vaccinations are properly done and they do not take it is the fault of the virus. The laboratories also recognize that the failures are due to the virus and not to natural immunity and they replace all virus that fails to take in primary vaccinations.



# FLORIDA HEALTH NOTES

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### WILL THE LEGISLATURE PLEASE?

The NOTES prays the indulgence of its readers for this month by asking that the usual treatise on sanitary subjects may be omitted and that a heart-to-heart talk with the Legislature of Florida through the people of the State may be substituted for the discussion on pertinent sanitary truths. The NOTES asks that a careful attention may be paid to certain facts in regard to health matters in the State, which are mentioned, their creation and progress, because it can then be better understood why at this time the State Board of Health has asked the Legislature of Florida for certain additional enactments by which the usefulness of the health department of the State can be made of a more practical benefit to the general public.

In 1889, after the severe epidemic of yellow fever of 1888, Governor Fleming called a special session of the Legislature in February, although the regular Legislative session fell in April of that

year. He wisely considered that it was absolutely necessary that some measures before the regular session of the Legislature should be instituted by which the disastrous results of panic and fright of the preceding summer might be averted and that cognizance of certain needful requirements should be taken because the warm season would already be on the State when the regular session of the Legislature would convene.

If anyone interested in the history of events connected with the creation of the State Board of Health will take the trouble to read the organic health law, that is, the act which the special Legislature of 1889 passed, he or she cannot fail to be impressed with the fact that the tenor of the whole document and enactment was prompted by fear of yellow fever prevalence, which suggested quarantine measures to prevent not only introduction of this disease, but to suppress its spread should it unfortunately gain entrance into the State.

Except in a very limited way the broad subject of sanitation and general health regulations is scarcely touched upon, while specific instructions are given as to the management of transportation companies during a yellow fever prevalence as well as the duty of physicians and otherwise to promptly report cases of that disease. Incidentally mentioned with yellow fever, is cholera and smallpox.

Since 1889 no other legislation connected with the general health of the State has been enacted except the Sanitary Nuisance Law as it is called, Chapter 4346 Laws of Florida, and perhaps, too, the placing of hydrophobia by certain regulations under the control of the State Health Officer.

Different conditions as relating to general health and public health matters exist now, and it seems necessary that if the State would advance along the lines of progressive health legislation and sanitary enactments with other States in the Union, that Florida should enter upon a broader field in caring for the lives and health of the citizens and push onward along developmental planes which scientific investigations have amply demonstrated the demand and necessity for.

The maritime quarantine of the State passed into the hands of the United States Government by permission of the Legislature of 1901. Yellow fever no longer presents that terror to the general public which it possessed prior to the discovery of Reed and his colleagues, for it is now recognized that the disease is propagated solely and entirely by mosquitoes. Knowing the source of infection,

the cause and the result can be easily looked after, anticipated and prevented.

The State Board of Health has asked the Legislature at this session to allow the health department to counsel and direct the thought of the people to a correction of evils which menace their health and their lives, by permitting the Board to investigate and discover, if possible, the sources of hidden disease and to assist municipality and settlement in correcting abuses in living which threaten life and which if allowed to continue and develop most certainly will kill.

Senate Bill No. 20, which has been introduced by Hon. Theop. West, a distinguished physician of Jackson County, contains many needful requisites to perfect sanitary work and useful administration of health matters in the State, and it is for this measure that the NOTES, at the request of the State Board of Health, asks the earnest cooperation of the people of Florida towards influencing its passage and enactment. Can the State Board of Health be safely depended upon to manage the health affairs of the State? Does that confidence which the people of the State have in its administration, warrant the placing of extraordinary powers in health matters into its hands for execution? The Notes thinks that this is the main proposition to be considered. If the State Board of Health can be trusted to look after the health of the people of the State, it should be given plenary authority to enforce such regulations as may be needed to protect the people from each other and from the introduction of diseases from beyond the State boundaries. The Notes would be glad to have pointed out a single instance where the State Board of Health has usurped powers not delegated by law or has insisted upon measures which, apparently arbitrary at the time, were not fully justified and approved of by subsequent events, and warranted, because protecting the people in their individual health and as communities against the introduction of insidious disease.

Therefore, believing that the success which has attended the operations of the Board for seventeen years has increased immigration which undoubtedly a confidence in the health conditions of the State has stimulated, as well as the redoubling of the wealth of the State by inducements held out in health supervision and control, warrants the assumption in the future as in the past, that the State Board of Health will be conservative in all of its actions and that the people will do wisely in listening to advice offered in this

respect, for only that which is felt to be necessary is asked for and the authority granted will be prudently administered.

In this number we publish, without apology, an article by Dr. Burr, upon one phase of the great unmentionable disease. While we may not indorse everything he says, yet if he tilts the lid so that you can get a peep at what's beneath, it is worth while.

These are terrible facts to think of. If you ever have a sister or daughter to get married this may get gruesomely close to you. Think it over at your leisure.

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#### THE GUARANTEE OF SAFETY IN THE MARRIAGE CONTRACT.

Albert H. Burr, M. D., Chicago.  
(Published in Iowa Health Bulletin.)

The most important function of the human body, biologically, is reproduction. Behind this function the Creator placed a dominating, imperative, sexual impulse to insure its activity. This is the animate magnet which attracts and mates the opposite sexes. Through this magnetic force marriage came to be and must forever remain the most sacred and important institution in human society.

The supreme importance of woman in these relations is apparent when we consider her office in prenatal existence; her role as the nourishing mother; her place as the very foundation stone of every hearth and home, and her life, as the vital center about which cluster families and tribes and nations. Around the sexual life of woman are grouped the most potential factors in the perpetuity, development, and highest good of the race, physically, morally and mentally. Around the sexual life of a woman also are grouped some of the most adverse and perplexing questions of all time, involving the double standard of morals, divorce, prostitution, and the plague of venereal diseases; questions which seem almost as difficult of practical solution as the problem of perpetual motion.

The welfare of society depends far more on the physical, moral and intellectual excellence of woman than on that of "mere man." In a certain spirit of chivalry, not always free from a selfish bid for her favors, man pays tribute to her great and supreme worth. By

the right of might, not always free from injustice and tyranny, he has constituted himself her physical guardian. Her safety, then, in the marriage contract, which binds them both in a common destiny, should be his most sacred care.

Slowly, but surely, coming down through the ages, the leaven of the gospel of the lowly Nazarene is working out a more just solution of the equities of woman in her social, political and property rights. Even for her most unfortunate sister, Magdalene, at whom society casts stones to this day, the Savior had no words of condemnation, but viewing her in compassion, so deftly did he shift the sin on the shoulders of her accusers, that while he stooped to write in the sand they stole away like conscience-smitten cowards.

The progress of man from barbarism to the highest and best types of civilization has no better gauge by which to measure its development than the degree of debasement or exaltation of woman among the different races and nations of men. The uplift of humanity through a better recognition of the inherent rights of woman and her protection in the enjoyment of these rights has been greatly accelerated in our own country during the last half century.

It is a far-away cry from the concubinage of woman under patriarchial rule, when her husband was proprietor of her body and soul, if indeed she was credited with a soul, up to the higher ideals of her relations to her consort and to the State.

Animated with a sense of justice in some of these higher ideals, we plead for certain sanitary measures, without which it is impossible to guarantee the safety of woman in the marriage contract. In this alliance there are risks from various physical and mental ailments which are shared alike by both parties to the contract, but there are diseases which peculiarly menace the bride at the marriage altar which may and do often transform it into a sacrificial altar, on which health and life itself are immolated. The great prevalence and gravity of venereal diseases, and their communicability during indefinite periods of chronicity and latency, among males of marriageable age, have been set forth with increasing emphasis from the epoch-making publications of Noegerath and Neisser down to those of Sanger and Morrow. It is evident that marriage under these circumstances becomes a frequent means of spreading these infections with dire results to innocent wives and their offspring. Only the briefest allusions to the statements of authoritative observers on the baneful effects of these diseases in the home can be made in this

Laper. Pathologists tell us of their power to maim, blight and destroy human life. Gynecologists estimate that from 50 to 75 per cent of their operations, chiefly on married women, are made necessary through gonorrhea. Joseph Tabor Johnson says: "The effects of gonorrhea on the female generative organs have been so destructive that no successful contradiction is feared when the belief is expressed that no disease in modern times has caused so much indirect mortality, mutilation and suffering, both mental and physical, as gonorrhea." Matthew D. Mann says: "Practically every case of pus tube is of gonorrhreal origin." Joseph Price says that 95 per cent of all the women who present themselves for treatment at the New York hospital, under his observation, "were respectable married women who had been infected by their husbands." Thus we are flooded with proof that however unfortunate the effects may be on the male offender the pathological relations of gonorrhea to the pelvic organs of helpless wives is a stupendous calamity. If this one disease could be eliminated from wedded life, gynecology as a specialty would shrink to small proportions.

There is another dark chapter in the role that venereal diseases play in the marriage relation, by which its supreme object is defeated. These vipers of venery, lurking as they do under the floral tributes of the honeymoon, may so inhibit conception or blight its products that motherhood becomes either an utter impossibility or a veritable curse.

Vedeler investigated 310 sterile marriages and found that 75 per cent of them were directly or indirectly due to gonorrhea in the husband. The ein kind sterilitat, so-called by the Germans, in which the reproductive powers of the female are extinguished with the first pregnancy, through the extension of the infection previously confined to the cervix uteri, is of common occurrence, while gonorrhreal endotritis is perhaps a more frequent cause of abortion than syphilis itself. The ban placed by venereal diseases on fetal life outrivals the criminal interference with the products of conception as a cause of race suicide. To this chapter we must append the postnatal effects of blindness, deformity and degeneracy that fill our charitable institutions with their unfortunate victims. Is the picture overdrawn? The "half has never been told."

For marital dangers of this sort, the lords of creation consider themselves reasonably safe through the expected virginity and chastity of their intended wives. Through voluntary extra-marital exposures only do they have apprehensions of venereal contagion. On

the other hand, "my lady," the innocent, unsuspecting bride, without defense or recourse, too often reaps the "wild oats" sown by her husband," which may invalid her for life, deny to her the joys of motherhood, carry her to the operating room or tragically terminate her existence. Let us suppose the tables could be turned for a time, and the husband had to bear the heaviest penalties of these diseases to which his wife might lay him liable through the marriage contract, what then? We believe it would not be long till he found a way to guarantee his own safety. It is possible that this guarantee of safety may not generally be assured to woman until she becomes a real American citizen, and through the ballot also becomes a law-maker. I venture to say that if any of the animal industries of the country should suffer from such a scourge as the venereal diseases placed on the human family every resource would be taxed to eradicate it speedily and completely.

What barriers are raised to stay this tide of disease and degradation? Practically none. We hide our heads in shame and prudery before the naked truth of it. In silence our tongues cleave to the roof of our mouths lest we violate the proprieties by the mention of these things, while the suffering and mutilation and slaughter of the innocent goes ruthlessly on. It is a disgraceful anomaly in state medicine in the United States of America that the most persistent of all contagions, the most prevalent of all, excepting measles the most costly and dangerous of all in the aggregate, barring none, should have no official existence. It is a fact that no national, state or civic boards of health or sanitary commissions are taking any account of venereal contagions. No appropriations of money or measures are made for their suppression. We can learn much of the Scandinavian nations who handle these matters more effectually. Over thirty years ago they placed gonorrhea and syphilis among the reportable contagions and required physicians to make weekly returns concerning them; with the result that during this period these social pestilences have been reduced by 34 per cent.

The day must come when the suppression of the gonococcus shall rank in sanitary importance with the destruction of the mosquito; when the culture beds of the "red light districts" shall be looked after as carefully as the drainage of stagnant and polluted waters.

We may now more intelligently consider measures which go a long way toward guaranteeing safety in the marriage contract.

The problems of the social evil, which is the great hotbed of these vile diseases, we must pass over with the expression of our conviction that the dismal failure of regulation everywhere, in limiting venereal diseases, lies in the simple fact that the chief offender, the male purveyor of venereal diseases, is completely ignored in the reckoning and is allowed perfect freedom to scatter his private pestilence wherever he chooses. Neither can we discuss here the educational measures for the prevention of venereal diseases except to express the belief that our public school instruction should include the physiology and hygiene of the sexual organs as of equal or of greater importance than those of the digestive organs. The instruction of our youths should begin at puberty, when the sexual life is in bloom and its susceptibility to the dangers of venereal parasites has begun. These and all other truly prophylactic or curative measures to diminish the evil are indirectly important in guaranteeing safety to the family, but there is a more vital and strategic point of defense, one portal where the infected male can be halted. To insure a sanitary marriage it is imperative to establish a quarantine station before the marriage license window, over whose gate should hang this legend: NO HEALTH CERTIFICATE, NO LICENSE!

Every woman who would enter matrimony has the inherent right to do so without the hazard of bodily contamination from already existing contagion in her intended husband. Manifestly, the State is the only power capable of protecting her in this right. It declares marriage to be a civil institution, it places certain restrictions as to who may enter this relation, by whom the ceremony may be performed and on what grounds the bonds may be dissolved. We believe no higher obligation rests on the State than to extend its power to protect the vital interest of wives and mothers and offspring by safeguarding the entrance to matrimony from infectious diseases. A few States, North Dakota, Michigan and Indiana, have enacted laws for this purpose; similar bills have failed to pass before many other State assemblies. The first, and one of the best enacted, is the Creel Bill of North Dakota (1899), which required all applicants for the marriage license first to present a certificate from a medical examining board of three physicians, appointed by the County Judge, showing freedom from venereal disease, habitual drunkenness, insanity and tuberculosis. A vital defect of the Indian Bill (1905) is its lack of any provision for medical examination. It requires the State

Board of Health to furnish a form of application for license to marry (Sec. 2) and denies the license "where either of the contracting parties is afflicted with a transmissible disease" (Sec. 3). "No license to marry shall be issued except on written and verified application" (Sec. 1). So far as the bill goes this verification may be the sworn statement of the applicant, who is incompetent to determine whether he has a transmissible disease" or not. Clearly this inspection should be thorough and impartial and made by medical officials of the State under efficient modern clinical and laboratory tests when necessary. Only in this way can there be any adequate guarantee of safety in the marriage contract. Our medical education today is fully equal to such demands and could have no more worthy or humane employment.

In this symposium on the "Duty of the Profession to Woman-kind," her safety in wedlock should make a strong and sympathetic appeal to the physician, who in all ages has been woman's high priest, to whom she has always turned for ministrations in her helpless hours of distress and pain. He alone has an adequate knowledge of the specific cause, the channels of transmission, the manifold pathology and the deplorable sequel of venereal diseases. By these tokens, such a knowledge carries with it a responsibility he may not honorably evade. It reaches further than his private office. It carries him out aggressively onto the higher plane of preventive medicine, of which marital sanitation should certainly constitute its most important field.

Let similar methods of popular education concerning these diseases and their prevention be followed up, which are proving so successful in the campaign waged against tuberculosis. The public must be taken into our confidence in this matter, to secure its co-operation, without which our knowledge is the talent hidden away in a napkin. We must meet it, face to face, in the open. The American Society of Sanitary and Moral Prophylaxis, under the lead of Prince A. Morrow, has instituted just such a move, to interest the laity in the discussion of every phase of venereal diseases and their prevention. There is an immoral side to these diseases which complicates their discussion beyond that of all other contagions. The fact that they are contracted and imparted chiefly through a voluntary act invests them with a criminality in proportion to a knowledge of the possibilities of such an act. Every man, therefore, who infests his wife, or taints the blood of his children, is more or less a criminal. If we as physicians fail to impart to the

public our knowledge of these dangers and means of prevention we become particeps criminis. When the public is better informed, intelligent legislation will follow and wifehood, maternity and progeny will be freed of much of the peril of contagions contracted by the volitional acts of man.

The duty of the physician seems plain in this matter. He should work, in season and out of season, in private office and in public function, in medical societies and in law-making bodies, until aroused and intelligent public sentiment enacts measures to restrict and to suppress the contagious perils of venery. Only when we have accomplished this can we count on a reasonable guarantee of safety for women in the marriage contract.

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#### THE DUTY OF THE CONSUMPTIVE.

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#### WHAT HE CAN AND SHOULD DO TO PREVENT THE SPREAD OF TUBERCULOSIS.

*WM. N. BEGGS, A. B., M. D.,*

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What can the patient do to diminish the spread of tuberculosis? In other diseases we rarely take such a question into consideration. In such infections as, for example, typhoid fever or pneumonia, his cooperation in this phase is not to be depended upon in the least degree. He is practically helpless, and whatever is done in this direction must be done by others.

This is not so in the case of tuberculosis. Except for the comparatively short periods of total helplessness immediately preceding the fatal result in those cases unfortunately so terminating, or of intercurrent acute exacerbations or complications, he has the matter of preventing the spread of tuberculosis practically in his own hands. The means are easy to carry out and absolutely effective. IF EVERY TUBERCULOSIS PATIENT WOULD ALWAYS DO WHAT HE COULD EASILY DO TO PREVENT THE SPREAD OF THE DISEASE, tuberculosis, there would be a repetition in the history of tuberculosis of the history of smallpox after the general introduction of vaccination. Instead of being one of the greatest scourges to which the human race is subject, it would be reduced to a practically negligible affection.

Practically all tuberculosis is derived from the sputum of tuberculosis individuals. While there are some other sources (such as the indigestion of meat or milk from tuberculous animals) from which the disease may be contracted, the percentage of such cases is so very small that, for all practical purposes, we need not take them into account. I have no hesitation in saying that for tuberculosis in the adult at least, contaminated food and drink is of minimum importance.

The germ of tuberculosis (the tubercle bacillus) is contained in the sputum of all consumptives in varying amounts. One good (I was about to say healthy, but let us rather say unhealthy) consumptive will expectorate untold millions of them every twenty-four hours, and it is by inhaling untold millions of these germs that we contract the disease. It is not by the occasional inhalation of the few that we are affected—otherwise the human race would be swept off the face of the earth. In other words, the germ of tuberculosis is one of a relatively slight degree of virulence—of slight poisoning power—for human beings.

Human beings generally have a high degree of resistance against tuberculosis. They can take into their systems and destroy large quantities of tubercle bacilli without being affected by them. It is only when the normal power of resistance does not exist or the bacilli have been taken up in unusually great quantities that the disease known as tuberculosis develops. That is, the consumptive is an individual specially susceptible to the invasion of the germ of tuberculosis. The very fact that he is a consumptive is proof positive that he is specially deficient in resisting power to this germ; that it is easier for him to become infected and reinfected time and time again than it is for his fellow-beings. It is only by becoming reinfected time and time again, either from within or without, that the disease advances and that danger exists to the patient. No person ever died of tuberculosis whose clinical history has not been that of repeated spread beyond the limits of the original focus, and that spread has invariably been produced by repeated reinfections.

There is a certain degree of variation in the degree of susceptibility of different individuals to this germ, and, likewise, a certain but unknown variation in the degree of virulence of different strains of tubercle bacilli. Some are more actively poisonous than others. Some individuals will succumb to infection by tubercle bacilli which would not affect others. While there might be some

question as to a certain person's susceptibility to tubercle bacilli of certain extraneous sources, one thing is certain—those which he is expectorating himself are virulent for him; they are capable of re-infecting him.

Aside from the nobler, altruistic reason of doing unto others as he would be done by, these two facts just elucidated are to the patient a supreme reason why he should do all in his power to prevent the increase of opportunities for the spread of the disease to others. By increasing these opportunities for others he is increasing the opportunities for his own further infection by a strain of tubercle bacilli of definitely known virulence for himself.

In this connection we should remember that it is now a well recognized fact that tuberculosis is essentially a house disease. By this is meant that the dwelling-house, the office, the store, the factory building, the workshop, have become saturated, so to speak, with the germs of tuberculosis emanating from the tuberculous sick, and that these germs are continuously and repeatedly inhaled by the occupants of these buildings. Dampness of the buildings, darkness of the rooms, and the other unhygienic conditions of the premises are not the direct cause of tuberculosis; they simply act as predisposing causes. Infection of them with the tubercle bacillus is essential. These buildings are infected by the patient; he and others live in or frequent them, and he is the most susceptible to their effects.

It is not by inhalation of air out of doors, even though dust-laden and germ-containing, that tuberculosis is contracted. The outdoor air is comparatively very pure, invigorating and life-giving, and not death-bearing, so far as tuberculosis is concerned.

Nor do we contract the disease by a single visit or by rather infrequent visits to the contaminated building. To ascribe the development of pulmonary tuberculosis in any individual to a single or any one definite exposure is irrational, ridiculous, and furthermore injurious as being the real basis for the phthisiophobia now so rife and inhumane.

It is in protracted housing in the infected building that the danger lies. It is by having the respiratory organs practically bathed constantly by an atmosphere laden with germs from the dried and pulverized sputum of the careless, ignorant, or vicious consumptive.

So well recognized is the universality of this origin of this dis-

ease that the phase "No expectoration no tuberculosis," has become an axiom in phthisiology.

Herein lies the fact that the consumptive himself is the most potent factor in the spread of the disease. Herein also lies the fact that it is in his power, collectively, to be the all-powerful agency in preventing its spread. If every victim will so care for his sputum that no one else is exposed to danger from it, he will at the same time diminish his own chances for further infection and practically wipe out the disease as an important factor in the ill health and suffering and death of the world's population. So true is this that the principal efforts of the medical profession, the State, and all other agencies engaged in the anti-tuberculosis crusade are directed, either directly or indirectly, toward the care of the sputum, to rendering it harmless to the at present healthy individual.

But little need be said with regard to the care of the sputum. "No sputum, no tuberculosis." Therefore destroy the sputum and you prevent the spread of the disease.

It follows from this that the first duty of the patient is to avoid promiscuous and careless expectoration. For his own salvation as well as for the sake of others, he should not spit upon the floor, or the wall, or upon newspapers, or anywhere where it may dry up, become pulverized and be carried up into the air by every little draft; nor should be allowed others, no matter how healthy apparently. The anti-spitting crusade should find its strongest supporter in the consumptive. He should teach others the possible dangers to all.

This patient cannot be asked to swallow his sputum. Aside from the unaesthetic traits of this performance it would mean to expose him to a certain, even though undetermined and perhaps slight, danger of additional self-reinfection through his own digestive tract. He can, however, be expected to so care for his sputum that it will not be a source of danger to either himself or others.

In the house the cuspidor is most frequently used. The floor cuspidor is not entirely without danger. Not all spitters are good aimers, and you know the result. Even some who can aim well try at times to see how near they can come to the mark without striking it. When the cuspidor is used it should always contain some liquid disinfectant, such as five per cent carbolic acid solution or lye, or milk of lime. Corrosive sublimate is not so good

because it coagulates the sputum, thereby diminishing its penetrating power.

The very most important aid in the care for the sputum is the individual sanitary spit cup, with which you are all familiar. The patient carries it with him. The paper receptacle and contents are burned. This entails a minimum amount of handling and results in perfect destruction of the injurious material. It has the inconvenience of having to be carried openly, proclaiming the fact to the public that the carrier is a consumptive—a matter of no small inconvenience, suffering, and humiliation to the victim.

More convenient of carriage are the paper pocket pouch, which may likewise be burned with its contents, and the various metal or glass pocket flasks, which are easily cleaned and sterilized. When the latter are used the sputum may be burned, boiled in soda solution or simple boiling water, or rendered sterile by the disinfecting solutions mentioned for the cuspidor. These also have the disadvantage of proclaiming the consumptive's disease.

The habit of expectorating in handkerchiefs should not be encouraged. It is dangerous to others, and especially to the patient. When used, the handkerchief is subject to more or less manipulation, spreading and unfolding, and dried sputum, previously deposited moist thereon, is dusted into the atmosphere for others, and especially the sick one, to inhale.

Should, however, the patient be unwilling to use the sputum cup, or pocket flask, he should employ clean cheese cloth or paper napkins to receive the sputum. These should be kept in a pocket for themselves. Under no consideration should the soiled cloths or napkins be returned to the pocket containing the clean ones. After being used, they should be placed in a special rubber-lined pocket or receptacle (such as the rubber tobacco pouch) and should be burned before drying. The rubber tobacco pouch has the advantage of convenience and the ease with which it may be cleansed and sterilized. It needs simply to be boiled in water to accomplish both results.

These are methods which are very simple, very easily carried out, and which should be employed by every expectorating consumptive. They are the most efficient safeguards for the people, and, if generally carried out, will result in the extinction of tuberculosis as an important disease.

Another method by which the germs of tuberculosis may be

spread, and a method strictly under the control of the patient, is that of coughing. It has been shown that, on coughing, a fine spray of saliva—which, of course, in the tuberculosis patient contains tubercle bacilli—is forcibly projected some distance from the mouth. This may be prevented very easily by holding a handkerchief or bit of cheese cloth before the mouth when coughing.

It is generally advised that no other person should sleep with a consumptive. This is certainly proper if the latter is careless with the sputum or dribbles and drules during his sleep. This advice, however, has done much to convey to the general public the impression that the patient's breath contains the germs of the disease, and that, therefore simple proximity to the sick one is fraught with danger. There is no belief which is more lacking in foundation.

Many phthisiologists proclaim vehemently that the consumptive should neither be kissed nor be allowed to kiss others. It strikes me that this is carrying our fear of the danger of contracting the disease to excess. It is rather an evidence of bacteriophobia than of sane reasoning, and is to be put on a par with the advice to sterilize all money before handling it lest a few tubercle bacilli be lodged thereon.

The advice to avoid handshaking, which I have seen in the published circulars of some institutions, is, of course, ultra-ridiculous. It is really difficult to understand how such advice can be proposed with a serious face.

There are certain occupations which the patient should refrain from entering upon because of the danger to others—but which, it is to be feared, this danger does not restrain them from undertaking. But few (such as employment in dairies, butcher shops, handling of various food stuffs, etc.) need to be mentioned to call to your minds many others of similar character. This, of course, assumes that the consumptive entering such employment will not be conscientious in the matter of expectoration.

The gist of this paper is "No expectoration, no tuberculosis," no spread of the disease. The patient has absolute control of the sputum, therefore he easily has absolute control of the spread of the disease. If he does his duty there is little left for others to do. The consumptive who indiscriminately distributes his germ-laden sputum is ignorant, careless, or vicious. He may be all three, but is certainly at least one of the three. Usually he is simply careless and not thoroughly informed. His carelessness is generally due to a

lack of knowledge of the danger he is to himself, his family, and his neighbors.

In my own experience viciousness is not a characteristic of the consumptive. A little knowledge may be reconcilable with carelessness, but it is difficult to think of one thoroughly posted being so reckless as to spread broadcast the very means of so greatly augmenting his own danger. It is, therefore, the duty of others and the intelligent patient to educate the ignorant and careless and place under restraint the vicious.

In closing it is only proper to add a protest against the unreasoning phthisiophobia now so rife, which makes of the consumptive a pariah. Others besides the patient needs education. The little knowledge which is a dangerous thing is widespread. The public school should now be taught that it is not the consumptive person who is dangerous, but it is simply the ignorance or the carelessness or the viciousness of some consumptives and the ignorance of themselves which makes some—many—consumptives dangerous to the community and responsible for the extensive existence of this disease. The intelligent and careful consumptive is no more a source of danger than the man with a broken leg.

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Dr. G. W. Lamar, agent State Board of Health for Gadsden County, says, in his annual report to the Board concerning health conditions in his county for 1906:

"While we have not been entirely free from measles, whooping cough and chickenpox, we have been almost entirely free from diphtheria and scarlet fever; and smallpox, from a continued work on vaccination, has almost become unknown."

## LEGISLATIVE NUMBER

# FLORIDA HEALTH NOTES

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EXECUTIVE OFFICE, STATE BOARD OF HEALTH OF FLORIDA.

KEY WEST, FLA., May 11, 1907.

*To the Legislature of Florida, Session of 1907:*

GENTLEMEN—There is now pending for action in the House of Representatives House Bill No. 488 (by Mr. Smith, of Lake county):

A Bill to be entitled an Act to authorize the State Board of Health to adopt, promulgate and enforce rules and regulations for the betterment and protection of the Public Health of the State of Florida.

Which was read the first time by its title and referred to the Committee on Public Health.

This Bill is submitted for your favorable consideration.

Several features objected to in Senate Bill No. 20, which was recently indefinitely postponed by the House, have been eliminated

from the present Bill, such as the power to make general rules; the vaccination clause; the burial permit; regulation of burials and requiring vital statistics.

It has occurred to me that not having the privilege of addressing the Legislature on the floor of the House in explanation of the provisions of this Bill, I might assume the privilege of speaking for the present measure by communication, without being considered either presumptuous or impertinent.

In the first place and at the outset of this appeal to your reason, let me say the Bill now under consideration is not Dr. Porter's Bill, although he would be proud to have his name attached to the measure. It is a proposition endorsed by the State Board of Health. It embraces in its various provisions recommendations which the State Health Officer and the State Board of Health have advised in each Annual Report since the Board was organized by Legislative Act in special session of 1889. Experience in dealing with individuals, singly, and collectively as communities, has shown the urgent need of other legislation than what is contained in the Act creating the State Board of Health of 1889, and if Florida proposes as a State to keep in the advance column of scientific progress and be the equal of the majority of other States of the Union, in providing means and measures calculated to improve the health of her citizens as well as to suppress and prevent disease, other privileges and authority must be granted the State Board of Health for investigations than what the original enactment calls for, for to any analytical mind the fact must be apparent in reading the original Act, that the trend of thought permeating the whole scheme is directed to quarantine and yellow fever, and but very obscurely and vaguely to the broad principle of general health protection.

The State Quarantine passed to the control of the United States Government by Legislative authority of 1901 and the thought of yellow fever ceases to distress the people of Florida because of the eye lesson at Pensacola and Tampa in 1905.

It is to remedy these defects that the State Board of Health at its last annual meeting requested the Legal Advisor of the Board to "draw up" for the approval of the Governor of the State, and then if meeting with the Governor's approbation, to present the plan for improving the scope of additional work which the Board should have imposed upon it, to the Legislature of 1907 for its consideration and enactment.

This is the history of the conception and inception of the measure now under consideration in the House of Representatives and which

has been referred to House Public Health Committee. Time will not permit to minutely or in detail argue the reasonableness of the various provisions for health government and scientific investigation which are mentioned in this Bill, but it may very pertinently be asked, Why should there be any objections to enlarging the authority of the State Board of Health in matters pertaining to the investigation of disease or making regulations for suppression of public nuisances and providing remedies for the same?

Is not greater authority and power given by the Legislature to the Railroad Commission to legislate and enforce with judicial command any rule and regulation which said Commission may deem needful and necessary to protect the commercial transportation rights of the citizen? Is not the health of the people as valuable an asset to the State as the carrying of products of the farm to market? Should not the health of adults and children be protected against insidious disease and harmful agents, from hidden germs and from the "pestilence that walketh in darkness"? What advantages a man if he acquire riches or fame and lose his HEALTH?

Many a man and woman comes to an early grave through ignorance of harmful conditions under which he or she is living. How is he or she to learn of these pernicious agents unless he or she reads of them or is told, and who is the proper one to tell if not the Organization which the people by the Constitution of Florida have constituted, and how is that Organization to keep pace with new ideas and new facts ascertained only through the Laboratory, by experimentation and microscopical research, unless the Legislature permits by enactment such investigations and researches to be carried on? It is this feature which the Bill under consideration especially provides for.

Should not the vehicles for public transportation in Florida be supervised in sanitation? While the Legislature in its wisdom is providing for separate waiting rooms and transportation vehicles for the races in the State, should it not be deemed equally necessary that the State Board of Health enforce cleanliness in these public vehicles and waiting rooms, and prohibit spitting on floors and defiling walls with perhaps sputum saturated with the germs of pulmonary consumption, to dry, pulverize and scatter through the atmosphere to infect a weak lung of an otherwise healthful person?

A Bill has been introduced in the House of Representatives and is known as House Bill No. 221, which "provides for the enumeration of agricultural, horticultural, livestock, manufacturing, industrial and other statistics; for the appointment of county enumerators; to define

their duties ; to provide for their compensation, and to define the duties of the Boards of County Commissioners in connection therewith."

Are statistics in regard to agricultural productions of more value to the people of Florida than a knowledge of their health and of their natural increase, with the deductions from such study as will give useful and beneficial information to prolong life and augment health?

The necessity for the other provisions of the Bill are so apparent and so convincing that to even attempt an argument as to the needs would, I think, be offering an insult to the intelligence of the Legislature, a class of citizens whose desire, I assume, is to legislate solely for the welfare of the people of Florida.

If each Legislator will study this Bill carefully and free his mind from prejudice which has been either conveyed by others or through a lack of proper information on the subject, or has been preconceived in the wrong direction, it is thought that but one determination can be arrived at, and that is the present Bill should be passed in its entirety and without emasculation.

The measure is now in your hands to approve of or to reject. If rejected, the efficiency of the State Board of Health, which Organization the Constitution especially provides for in Article 15, will be materially crippled in further efforts to benefit the people of their State in their home life, in their commercial activities and inducements to immigration, because people are not coming to a State where the laws do not afford proper and adequate protection to their health and life.

With great respect, THE STATE HEALTH OFFICER.

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The State Board of Health, in annual session, recommended to the coming Legislature certain legislation. The Governor in his biennial message to the Legislature recommended legislation along the same lines. A bill was accordingly drawn and submitted to the Governor for his views on the same. The Governor approved. The bill was introduced in the Senate by Senator West, and was known as Senate Bill No. 20. It passed the Senate with little opposition. It was likewise introduced in the House of Representatives (by Mr. Smith, of Lake County), and was known as House Bill No. 100. It was attacked in the House, and finally defeated. The title and text of the bill was:

## A BILL

To be entitled

## An Act to Prescribe and Declare Certain Powers of the State Board of Health, and to Authorize said Board to Adopt, Promulgate and Enforce Rules and Regulations Regarding the Same.

*Be it enacted by the Legislature of the State of Florida:*

SECTION 1. That the State Board of Health shall have the power to make, adopt, promulgate and enforce rules and regulations and from time to time alter, amend, repeal and add to the same; to define and declare what shall be public nuisances, and to provide remedies for and means of abating the same; to require and provide for the thorough sanitation and disinfection of all passenger cars, sleeping cars, steamboats and other vehicles of transportation in this State, and also of all convict camps, penitentiaries, jails, factories, hotels, schools and other places used by or open to the public; to prohibit spitting in public places and other places defined and declared by such rules; to provide for the treatment, segregation and disinfection of animals having communicable, contagious or infectious diseases; to prohibit the shipment or bringing into this State of animals and articles infected with communicable or contagious disease and to provide for the proper disinfection or destruction of the same; to provide for the care, treatment, segregation and isolation of persons having or suspected of having any communicable, contagious or infectious disease; to provide for the vaccination of all persons entering or residing in this State; to require reports of all communicable, contagious and infectious diseases to be made to said State Board of Health by physicians, nurses, and other persons connected with the treatment of such diseases and prohibiting the concealment of any diseases; to provide for the examination and licensing of undertakers and embalmers, and to prohibit the embalming of dead bodies by any except undertakers and embalmers who have been licensed in accordance with such regulations so prescribed by said State Board of Health; to regulate the preparation for burial and the burial, transportation and other disposition of the bodies of persons who have died in this State and of dead bodies brought into this State, and to prohibit the transportation or disinterment of any such dead bodies in any case which may be deemed injurious or dangerous to the public health; to prohibit burials and interments in this State without permits from said State Board of Health; to regulate the method or disposition of garbage or sewage and other refuse matter in or near any incorporated city or town or unincorporated town or village of this State; to provide for a system of collecting statistics concerning births, deaths, marriages, disease and

other vital statistics in this State, including the appointment and compensation of persons to collect and tabulate such statistics; to provide for the thorough investigation and study of the causes of all diseases, epidemics and otherwise, in this State, and the means for the prevention of contagion and disease and the publication and distribution of such information as may contribute to the preservation of the public health and the prevention of disease; to supervise and regulate municipal and county sanitation; and to make separate orders and rules to meet any emergency not provided for by general rules or regulations for the purpose of suppressing nuisances and communicable, contagious and infectious diseases and other dangers to the public life and health; *Provided*, however, That nothing herein contained shall be construed as in anywise limiting any right, duty, power or powers now possessed by or heretofore granted to the said State Board of Health by the Statutes of this State, or as affecting, modifying or repealing any rule or regulation heretofore adopted by said Board.

SEC. 2. That any person who shall violate, disobey, refuse, omit or neglect to comply with any rule of said State Board of Health made by it in pursuance of this Act shall be guilty of a misdemeanor, and upon conviction thereof shall be punished in the manner provided by law for violation of the rules of said Board.

SEC. 3. This Act shall take effect immediately upon its approval by the Governor.

After the foregoing Bill was defeated by the House, another Bill was drawn eliminating the objectionable features, and is now before the Legislature, known as House Bill 488. The title and text is:

A BILL  
To be entitled

An Act to Authorize the State Board of Health to Adopt, Promulgate and Enforce Rules and Regulations for the Betterment and Protection of the Public Health of the State of Florida.

*Be it enacted by the Legislature of the State of Florida:*

SECTION 1. That the State Board of Health shall have the power to make, adopt, promulgate and enforce rules and regulations from time to time requiring and providing for the thorough sanitation and disinfection of all passenger cars, sleeping cars, steamboats, and other vehicles of transportation in this State, and also of all convict camps, penitentiaries, jails, factories, hotels, schools and other places used by or open to the public; to prohibit spitting in public places and other places defined and declared by such rules; to provide for the treat-

ment, segregation and disinfection of animals having communicable, contagious or infectious diseases; to prohibit the shipping or bringing into this State of animals and articles infected with communicable or contagious disease and to provide for the proper disinfection or destruction of the same; to provide for the care, treatment, segregation and isolation of persons having or suspected of having any communicable, contagious or infectious disease; to require reports of all communicable, contagious and infectious diseases to be made to said State Board of Health by physicians, nurses, and other persons connected with the treatment of such diseases and prohibiting the concealment of any diseases; to provide for the examination and licensing of undertakers and embalmers, and to prohibit the embalming of dead bodies by any except undertakers and embalmers who have been licensed in accordance with such regulations so prescribed by said State Board of Health; to regulate the transportation and other disposition of the bodies of persons who have died in this State, and to prohibit the transportation or disinterment of any such dead bodies in any case which may be deemed injurious or dangerous to the public health; to regulate the method of disposition of garbage or sewage and any other refuse matter in or near any incorporated city or town or unincorporated town or village of this State; to provide for the appointment and compensation of persons to collect and tabulate vital statistics concerning births, deaths, marriages, diseases and other vital statistics in this State; to provide for the thorough investigation and study of the causes of all diseases, epidemics and otherwise, in this State, and the means for prevention of contagion and disease and the publication and distribution of such information as may contribute to the preservation of the public health and the prevention of disease; to supervise and regulate municipal and county sanitation; and to make separate orders and rules to meet any emergency not provided for by general rules or regulations for the purpose of suppressing nuisances and communicable, contagious and infectious diseases and other dangers to the public life and health; *Provided*, however, That nothing herein contained shall be construed as in anywise limiting any duty, power, or powers now possessed by or heretofore granted to the said State Board of Health by the Statutes of this State, or as affecting, modifying or repealing any rule or regulation heretofore adopted by said Board.

SEC. 2. That any person who shall violate, disobey, refuse, omit or neglect to comply with any rule of said State Board of Health made by it in pursuance of this Act shall be guilty of a misdemeanor, and upon conviction thereof shall be punished in the manner provided by law for violation for the rules of said Board.

SEC. 3. This Act shall take effect immediately upon its approval by the Governor.

STATE BOARD OF HEALTH.

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## ADDITIONAL ARGUMENT IN FAVOR OF HOUSE BILL NO. 488.

By Mr. Smith, of Lake:

A Bill to be entitled An Act to Authorize the State Board of Health to Adopt, Promulgate and Enforce Rules and Regulations for the Betterment and Protection of the Public Health of the State of Florida.

The following extracts from the message of Hon. N. B. Broward, Governor, to the Legislature, 1907, on pages 33, 34 and 35, is a complete endorsement of and a strong appeal to the Legislature to pass the Bill.

"Surely there is no more important care committed to you as representatives of the people of Florida than a wise and prudent consideration of those matters which affect the health and the public sanitation of the State.

Since the Legislature of 1889, in special session, in its wisdom established the State Board of Health, it has amply justified the action of those who brought it into existence, and it has discharged the duties committed to it faithfully and efficiently, and, on the whole, without serious local friction. You should give your earnest consideration to those matters which may be presented to you at this session in furtherance of the work of this very important department of State administration.

In several of the larger cities of the State there have occurred more or less serious outbreaks of typhoid fever during the past year. This, I believe, is entirely unnecessary, and preventable, when proper investigations are made as to the source of infection, whether of the water or milk supply, or other local conditions, and the necessary measures taken to remove such causes when found, and to prevent their recurrence.

The prevalence of cancer among the people of this country is increasing to an alarming extent, and I recommend that you authorize and empower the State Board of Health to make such investigation and research as they may be able with the means and opportunity at their command, to discover some treatment or remedy that will control and cure this dread disease.

The State Board of Health should be empowered to prescribe such rules and regulations for the fumigation and disinfection of sleeping and other passenger cars, and of sleeping and living apartments on boats or other means of passenger traffic, as medical science and the welfare of the public demand.

In order that the State Board of Health may intelligently and wisely consider the various problems of public health and sanitation which present themselves in the administration of the very important trust delegated to it, it should be in possession of complete and accurate vital statistics for the entire State. \* \* \* These statistics must form the basis for a careful study of health conditions and sanitary problems and from them must be gathered the light for their future guidance in meeting the questions and difficulties presented in the course of their work. I believe this to be an important matter. \* \* \* In some portions of our State sewage and other refuse matter is disposed of through "sink holes" or underground water passages, which abound in those localities. The possibility of such methods or systems of sewerage contaminating the water table from which the water supply of so large a portion of our State is drawn, should be carefully considered and investigated. I believe such methods of sewage disposal to be fraught with great danger to public health and safety. The State Board of Health should be empowered to require all plans or methods and systems of sewage disposal and water supply to be submitted to them for their expert investigation and approval, and no system should be installed or operated which does not meet the requirement of such rules and regulations as may be prescribed by them. And the service of an expert sanitary engineer who should visit the localities proposing such improvements, and make thorough examination into the sources of water supply and such other investigation as may aid in determining the advisability and safety to health of the adoption of the proposed water or sewerage system."

You cannot afford, gentlemen, to sacrifice life and endanger public health through either lack of scientific information on the subject, or through negligence or indifference to public health on the part of the local authorities.

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NARCOOSSEE, FLA., April 26, 1907.

*Dr. J. V. Porter:*

DEAR DOCTOR—The corporation known as The Narcoossee Sunshine Home and Sanitarium proposes to turn over to the State of Florida all the real estate, buildings, tents, furnishings, conveyances, etc., it possesses, on the following conditions:

- 1st. That the property be used as a Sanitarium.
- 2d. That memorial tents and cottages shall continue to bear the names given them by the donors.
- 3d. That should the State ever abandon the property, it shall revert to the corporation.

The real estate consists of lot twelve (12), section eight (8), in township twenty-five (25) south, range No. thirty-one (31) east, in Hendon Park addition to the village of Narcoossee, Osceola County, Florida.

The land is fenced and planted with ornamental trees and shrubbery. It has a good and commodious administration building, containing a parlor, office, three bed rooms, large dining room, kitchen and bath room; also numerous small rooms for storage. It is well supplied with hot and cold water; large broad porches surround the house on three sides.

In addition, there are two neat cottages, and four large tents. All the buildings and tents are neatly furnished. There is also a fine barn and two poultry houses.

On the grounds are a few orange, grapefruit and peach trees, some now bearing fruit. There is also a pinery of nearly a half acre producing all the fruit the invalids consume. The place is well supplied with good water, which is distributed to all portions of the grounds.

The grounds front on Lake Hendon, a beautiful lake one mile long and half mile wide. The buildings are on an elevated ridge 1-8th mile from the water.

Lots 13 and 14 on the north (see map) belong to two Northern ladies, who have allowed them to be sold for taxes. Lots 15 and 16 are my property, costing me four hundred dollars. If the State will purchase the lots 13 and 14, I will convey lots 15 and 16 to the State without any consideration on same conditions. You will then have a park of 22 acres for recreation of invalids, or for future extensions unsurpassed for natural beauty in the South. Adjoining lots 15 and 16 is a fine farm I own, used now as a pasture for cows that supply our milk and as a garden to produce our vegetables. This land is very fertile, as much so as you can find in any Western State. The State can use this farm and my cows for a term of years on payment of taxes and renewal of fences. \* \* \* Yours truly,

(Signed) JNO. E. ENNIS, M. D.

A BILL  
To be entitled

An Act to Authorize the State Board of Health to Acquire and Maintain a Sanatorium for the Treatment of Tuberculosis; to Make and Enforce Rules Regarding the Administration of Such Sanatorium, and to Provide Methods for Conducting the Same.

*Be it enacted by the Legislature of the State of Florida:*

SECTION 1. That the State Board of Health is hereby authorized to establish, conduct and maintain a Sanatorium for the treatment of persons suffering from tuberculosis, and for that purpose to receive, hold and use gifts of lands, money and other kinds of property. That said State Board of Health is hereby authorized to care for and treat without charge indigent persons suffering from tuberculosis. That patients financially able shall be required to pay such charges as said Board may from time to time establish for treatment in such Sanatorium.

SEC. 2. That said State Board of Health shall make, promulgate and enforce rules governing the management and conduct of such Sanatorium, and the care and control of inmates thereof, violations of which rules shall be punishable in like manner as violations of other rules of said Board are now punishable by law. That said Board may appoint physicians, nurses and other employees necessary for the maintenance, control and proper administration of said Sanatorium.

SEC. 3. That the cost and expenses of establishing and maintaining said Sanatorium shall be paid out of the funds of the said State Board of Health, now provided for by law.

SEC. 4. This Act shall take effect from the date of its approval by the Governor, and all laws inconsistent herewith are hereby repealed.

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SIMPLE SCIENCE TALKS.

After awhile we are going to tell you something about parasites—that class of animals and plants that draws upon other animals or plants for its subsistence. The dodder, or what the children call "love-vine" is a good example of a parasite among plants and the tapeworm is a good example among animals. Some parasites are not wholly so. The mistletoe for instance, though growing on an oak, has green leaves, and does a certain amount of chlorophyl work itself. The hermit crab, by its own effort secures its food, while its house or shelter is chosen after the manner of parasites. But before we reach the subject of parasites proper, the following from Henry Drummond is apropos:

## SEMI-PARASITISM.

"Any new set of conditions occurring to an animal which render its food and safety very easily attained, seem to lead as a rule to degeneration."—E. Ray Lankester.

Parasites are the paupers of nature. They are forms of life which will not take the trouble to find their own food, but borrow or steal it from the more industrious. So deep-rooted is this tendency in nature, that plants may become parasitic—it is an acquired habit—as well as animals; and both are found in every state of beggary, some doing a little for themselves, while others, more abject, refuse even to prepare their own food.

There are certain plants—the dodder, for instance—which begin life with the best intentions, strike true roots into the soil, and really appear as if they meant to be independent for life. But after supporting themselves for a brief period they fix curious sucking discs into the stem and branches of adjacent plants. And after a little experimenting, the epiphyte finally ceases to do anything for its own support, thenceforth drawing all its supplies ready-made from the sap of its host. In this parasitic state it has no need for organs of nutrition of its own, and nature therefore takes them away. Henceforth, to the botanist, the adult dodder presents the degraded spectacle of a plant without a root, without a twig, without a leaf, and having a stem so useless as to be inadequate to bear its own weight.

In the mistletoe the parasitic habit has reached a stage in some respects lower still. It has persisted in the downward course for so many generations that the young forms even have acquired the habit and usually begin life at once as parasites. The mistletoe berries, which contain the seed of the future plant, are developed specially to minister to this degeneracy, for they glue themselves to the branches of some neighboring oak or apple, and there the young mistletoe starts as a dependent from the first.

Among animals these lazzaroni are more largely represented still. Almost every animal is a living poor-house, and harbors one or more species of *epizoa* or *entozoa*, supplying them gratis, not only with a permanent home, but with all the necessities and luxuries of life.

Observant visitors to the sea-side, or let us say to an aquarium, are familiar with those curious little creatures known as hermit-crabs. The peculiarity of the hermits is that they take up their abode in the cast-off shell of some other animal, not unusually the whelk; and here, like Diogenes in his tub, the creature lives a solitary, but by no means an inactive life.

The *pagurus*, however, is not a parasite. And yet although in no sense of the word a parasite, this way of inhabiting throughout life a house built by another animal approaches so closely the parasitic habit, that we shall find it instructive as a preliminary illustration, to consider the effect of this free-house policy on the occupant. There is no doubt, to begin with, that, as has been already indicated, the habit is an acquired one. In its general anatomy the hermit is essentially a crab. Now the crab is an animal which, from the nature of its environment, has to lead a somewhat rough and perilous life. Its days are spent amongst jagged rocks and boulders. Dashed about by every wave, attacked on every side by monsters of the deep, the crustacean has to protect itself by developing a strong and serviceable coat of mail.

How best to protect themselves has been the problem to which the whole crab family have addressed themselves; and, in considering the matter, the ancestors of the hermit-crab hit on the happy device of re-utilizing the habitations of the mollusks which lay around them in plenty, well-built, and ready for immediate occupation. For generations and generations accordingly, the hermit-crab has ceased to exercise itself upon questions of safety, and dwells in its little shell as proudly and securely as if its second-hand house were a fortress erected especially for its private use.

Wherein, then, has the hermit suffered for this cheap, but real solution of a practical difficulty? Whether its laziness costs it any moral qualms, or whether its cleverness becomes to it a source of congratulation, we do not know; but judged from the appearance the animal makes under the searching gaze of the zoologist, its expedient is certainly not one to be commended. To the eye of science its sin is written in the plainest characters on its very organization. It has suffered in its own anatomical structure just by as much as it has borrowed from an external source. Instead of being a perfect crustacean it has allowed certain important parts of its body to deteriorate. And several vital organs are partially or wholly atrophied.

Its sphere of life also is now seriously limited; and by a cheap expedient to secure safety, it has fatally lost its independence. It is plain from its anatomy that the hermit-crab was not always a hermit-crab. It was meant for higher things. Its ancestors doubtless were more or less perfect crustaceans, though what exact stage of development was reached before the hermit habit became fixed in the species we cannot tell. But from the moment the creature took to relying on an external source, it began to fall. It slowly lost in its own person all that it now draws from external aid.

As an important item in the day's work, namely, the securing of safety and shelter, was now guaranteed to it, one of the chief inducements to a life of high and vigilant effort was at the same time withdrawn. A number of functions, in fact, struck work. The whole of the parts, therefore, of the complex organism which ministered to these functions, from lack of exercise, or total disuse, became gradually feeble; and ultimately, by the stern law that an unused organ must suffer a slow but inevitable atrophy, the creature not only lost all power of motion in these parts, but lost the parts themselves, and otherwise sank into a relatively degenerate condition.

Every normal crustacean, on the other hand, has the abdominal region of the body covered by a thick chitinous shell. In the hermits this is represented only by a thin and delicate membrane—of which the sorry figure the creature cuts when drawn from its foreign hiding-place is sufficient evidence. Anyone who now examines further this half-naked and woe-begone object, will perceive also that the fourth and fifth pair of limbs are either so small and wasted as to be quite useless or altogether rudimentary; and, although certainly the additional development of the extremity of the tail into an organ for holding on to its extemporised retreat may be regarded as a slight compensation, it is clear from the whole structure of the animal that it has allowed itself to undergo severe degeneration."

H. B.

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#### FOUR IMPORTANT FACTS AND THREE PERTINENT QUESTIONS.

##### FOUR FACTS.

Consumption killed 1,913 males and 2,579 females in Indiana in 1905.

Consumption made 2,590 orphans under twelve years of age in Indiana in 1905.

Consumption invaded and made desolate 3,186 homes in Indiana in 1905.

**CONSUMPTION IS PREVENTABLE, AND THE STATE HAS ITS PART TO PERFORM IN THE WORK OF PREVENTION.**

##### THREE QUESTIONS.

If the State is not interested in saving human lives from consumption poisoning, who shall be interested?

If the State is not interested in protecting homes from the consumption monster, who shall be interested?

If the State is not interested in stopping the multiplication of orphans by consumption poisoning, who shall be interested?—*Monthly Bulletin, Indiana State Board of Health.*

## HEALTH.

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Health is a state of physical, mental, and moral equilibrium, a normal functioning of the body, mind, and soul. It is the state when work is a pleasure, when the world looks good and beautiful, and the battle of life seems worth while.

The laws of health are inexorable as the laws of gravitation, as exacting as eternal justice, as relentless as fate, and their violation is the beginning and cause of all disease, suffering and sin.

Health is the most desired of earthly blessings. When finally lost, it cannot be purchased by uncounted millions, restored by the alienist, or returned by the pulpit.

Health is that state of happiness, faith and love whose prototype was the first man—Adam; whose ideal is the Christ.—*S. J. Crumbine, M. D., in Bulletin of the Kansas State Board of Health.*

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THE RECORD COMPANY,  
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## FLORIDA HEALTH NOTES

## OFFICIAL BULLETIN

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## STATE BOARD OF HEALTH

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June, 1907

## No. 12 (New Series)

"Let the safety of the people be the supreme law."—Cicero.

## LINE UPON LINE.

The blessings which an observance of sanitary laws brings to each disciple of the Goddess Hygiea can be easily understood and is clearly demonstrable to any thoughtful person, who for a moment will seriously consider the subject. Sanitary laws are Nature's laws, and Nature's laws are but an expression of the Deity in the physical world. It is self-evident, therefore, that the nearer we approach the demands of that mysterious something which is called Nature the nearer we will be to a perfect state of being, both physically and morally. The ideal in anything unfortunately, is never reached, but it is possibly by education, by thought and by example to guide men and women into a healthful mode of life, and to teach them how to avoid the commission of many acts, which done through thoughtlessness or ignorance bring upon them and their posterity untold misery and suffering. This is what sanitation proposes to do, and is doing. There is nothing mysterious in its teaching, for it is based on common-sense

and intelligent reasoning and exacts from mankind only that obedience which as rational beings we are supposed to give to the demands of truth. The rapid advance of sanitary science and its wide-spread instruction to all classes of society has made it possible that the benefits of pure air, pure water, ventilation and cleanliness can be thoroughly understood, and the plea of ignorance is no longer excusable in view of the universal dissemination of knowledge and the teachings on this subject. In our own State, fair Florida, it is pleasing to note the interest that has arisen in which individual and public health is concerned. The State press, voicing the sentiment of the people, has each year increased the discussion of public health matters in its columns, arousing a regard for healthful living and demanding those reforms in municipal government by which the death rate can be decreased and the wealth of the State increased in the prolongation of the lives of her citizens and the suppression of disease agencies. It is truly gratifying to those to whom the people entrust their physical well-being to note the rapidly developing concern in this line, which is daily made apparent by inquiries for information and requests for abatement of nuisances which directly threaten or are thought to imperil the health of communities. It has been no easy task to bring about this sentiment in favor of individual hygiene for sparsely settled communities and good health government for Florida towns, and it can hardly be said that the battle has yet been won. The fight is still on against prejudice on one hand and man's cupidity on the other, both of which are the natural enemies of sanitation. Born as we are in a free country and imbibing with the first breath of life the inspiration of independence, the average American citizen resents any interference with his personal liberty or with what he considers an inherent right to manage his domestic affairs as best suits himself, and, paradoxical as it may seem, he will defend his property with his life, but he is utterly indifferent to the working of agencies which destroy the life or health of himself or family. Education in the progressive strides of civilization will eventually change this state of affairs and man will recognize his duty to be first to the protection of the health of those directly chargeable to his care, and will realize the happiness and prosperity attending such a course.

Boards of health are educational institutions for the distribution of information, to enable the uninformed to correct evils in living and to exercise that careful supervision over the house-

hold which will protect both the individual and his neighbor from the germination of disease. Thus health authorities become philanthropical and work solely for the physical betterment of mankind. Clothed, as usual, with ample and needs be with arbitrary power to enforce the regulations of health requirements the hand of power can nevertheless generally be gloved and made to rest lightly on the shoulders of communities and individuals as to be scarcely seen and only felt by the beneficent results which follow its edicts. It is only to the illiterate and vicious that sanitary laws are obnoxious and to those whose self-interest and greed is interfered with by their enforcement. The sanitary laws of Florida in the suppression of nuisances and the general protection of the public health are perhaps the most stringent enactments of the kind of any State in the Union, but we have yet to hear that any citizen has felt oppressed by the enforcement of statutes or, when attention is invited to apparent neglect of health ordinances, has not yielded a ready and cheerful obedience to the requirements of the regulations.

It is the pleasure of the NOTES by advice and by voicing the sentiment and teachings of distinguished sanitarians to always aid the people of Florida in attaining the best results in sanitary work, and to arrive at that perfection in health which shall fulfill the prophecy for the State made by Ponce de Leon centuries ago.

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#### SMALLPOX IN GERMANY.

Some years ago Dr. Kinyoun, of the Marine Hospital Service, was in Berlin. There he visited the University. He relates this incident: A Russian emigrant appeared in Berlin and soon after developed smallpox. He was sent to the general hospital, where various and sundry afflictions are treated. Now, the professors in the University teach the medical students about smallpox—how the temperature curve runs, how the eruption appears first as a macule, then a papule, then a vesicle, and lastly a pustule, then the stage of desiccation and desquamation. But they have no cases of smallpox to show the students. Indeed, many of the professors themselves have never seen a case, because they have compulsory vaccination, and it is only when an accidental circumstance occurs like the one above mentioned that smallpox ever gets into Germany. When such an accidental case occurs, everybody turns out to see it, as a medical curiosity. So on this occasion the entire faculty of the medical school and the students

went to see the man from Russia with smallpox. There were two Italian students in the school and they went also. No one thought to ask if they had been vaccinated. And they had not. Twelve days later the two Italian students came down with smallpox.

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### INGRATITUDE.

"The Legislature sat down on Dr. Porter's proposition to make us healthier and cleaner, but the health board continues its good work in *HEALTH NOTES*, without a sign of temper. The philanthropist is never surprised at inappreciation and the unwillingness of the human animal to be helped."—*Florida Times-Union*.

"Short Talks" in the *Times-Union* was hitting closer to the truth than he had any idea of when the above was penned, for the county which was the most benefited during the epidemic of yellow fever in Pensacola in 1905 by the management of the State Board of Health, in having its commercial relations with Pensacola not seriously disturbed, and its health protected against yellow fever, was the loudest, through its Representative, to denounce the State Health Officer as a tyrant, despot and assail his motives with other approbrious epithets, simply because the Legislature was advised to permit the State Board of Health to, as "Short Talks" puts it, "make the State cleaner and healthier." Verily, gratitude scarcely lasts over night. But perhaps the people of Santa Rosa county do not endorse such utterances. The *NOTES* hopes they no not.

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### TIPS FOR WOMEN.

It appears that in South Dakota the women are to force the bachelors into matrimony by a system of taxation for unmarried men.

Now we learn from Indiana that twelve men in 1906 were divorced upon the plea that their wives would not support them.

Thus the old maids would drive the poor bachelors to matrimony, and then tiring of them, refuse to support them and kick them out, jetsam and flotsam in the world, and the President proclaims "race suicide," and who is to blame?

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In North Carolina tuberculosis exists even as in Florida. The State Tuberculosis Commission has recently purchased an 800-acre farm for a State Tuberculosis Hospital. The Legislature authorized it. But that is in North Carolina.

## QUARANTINE AGAINST CUBA.

Yellow fever is officially reported in Havana and Matanzas Province, and accordingly the Marine Hospital Service has placed on quarantine against the island.

At Cuban ports the following regulations are observed:

"Passenger traffic without detention may be allowed during the close quarantine season, May 1 to November 1, from ports infected with yellow fever to ports in the United States south of the southern boundary of Maryland under the following conditions:

"(a) Vessels to be of iron or the best class of wooden vessels, and to be cleaned immediately prior to taking on passengers. The officer issuing the bill of health to these vessels shall withhold the same if the vessel is not in first class sanitary condition and complying in every respect with the conditions stated in this paragraph.

"(b) The vessel must lie at approved moorings in the open harbor; must not approach the wharves, nor must the crew be allowed ashore at the port of departure. Every possible precaution must be observed to prevent the ingress of mosquitoes, and to provide for the destruction of these should they find ingress.

"(c) All passengers and crew must be immune to yellow fever and so certified by the United States medical officer."

At southern ports of entry the following regulations are observed:

"Vessels arriving under the following conditions shall be placed in quarantine:

"(a) With quarantinable disease on board or having had such disease on board during the voyage.

"(b) Any vessel which the quarantine officer considers infected.

"(c) If arriving at a port south of the southern boundary of Maryland in the season of close quarantine, May 1 to November 1, directly or via a northern port, from a tropical American port, unless said port is known to be free from yellow fever.

"(d) In case of vessels arriving at a northern port without sickness on board, from ports where yellow fever prevails, the personnel shall be detained under observation at quarantine to complete five days from the port of departure.

"(e) Towboats and other vessels having had communications with vessels subject to quarantine shall themselves be quarantined if they have been exposed to infection."

"PUT MONEY IN THY PURSE."

—Shakespeare.

A few days ago a man called at the office of the State Board of Health.

The object of his call he at once made known.

He wanted to get the endorsement of the State Board of Health for a telephone mouthpiece that he had.

He proceeded at once to point out the dangers of disease being transmitted through the telephone mouthpiece, and to inform us that that is the way diphtheria, LaGrippe, tonsilitis, tuberculosis, erysipelas, colds in the head, catarrh, hay fever, spinal meningitis, and many other diseases are contracted. He told us of an epidemic of typhoid fever in Dixon, Ill., (he gave the exact number of cases, but it is too much to remember), that was traced directly to the telephone. And his patent mouthpiece was the very thing that would prevent all that. It would insure perfect safety from disease while talking through the telephone. In fact, you could talk to a case of smallpox over long distance without any danger of getting the disease yourself. There were other mouthpieces in the market, but his was the best. He said so. And all this magic result brought about by a simple device of aluminum containing a lamp wick to be saturated every two or three weeks with a few drops of something he had in a bottle—he didn't know what. You could get plenty more of it in Chicago. Besides it took so little. Only two or three drops applied with a medicine dropper. A little bottle full would last ever so long. It was just the thing the Board of Health wanted to see introduced. It would prevent so much sickness and save so many lives. The health officers all over the country are endorsing it. He could show letters from California. All he wanted in exchange for all the information he had given us—how diphtheria, LaGrippe, tonsilitis, tuberculosis, erysipelas, colds in the head, catarrh, hay fever, spinal meningitis—how all these diseases are contracted, and how typhoid fever is contracted in Dixon, Ill., and how all these diseases can be prevented by the use of this simple device and a few drops of something in a bottle—all he wanted in exchange for all this was only a trifle—could be given in a minute—a testimonial—that's all.

But more seriously, when he had run down he was informed that his device could not get the endorsement of this Board, except so far as it is a scientific remedy for a sanitary evil. That before this Board recommends anything to the public *it must be*

*needed* for the betterment of public health, and it *must fulfill the needs*. In the first place, the telephone is not a source of danger. No attention is paid to it among sanitary authorities—those who mould medical opinion. If all communicable diseases were eliminated except those transmitted through the telephone mouthpiece, there would be no further need of boards of health. It is an imaginary source of danger which commercialism unscrupulously flaunts in the face of an unsuspecting public. It is more than that. It is "your money or your life." And it is this that the State Board of Health is asked to be a party to!

In the second place, if the danger did exist, the remedy would not be in that direction. In substantiation of this the Laboratory of the Board made a series of tests to determine whether or not the mouthpiece in question would kill all germs that might come its way as is claimed. It was found that it would not—indeed, germs thrive in it. So in its last analysis it is an imaginary remedy for an imaginary evil. But on the other hand this metal device, perforated with many holes, would furnish far better lodging places for bacteria than the plain hard rubber mouthpiece ordinarily used and infinitely easier cleaned.

We would not have given so much space to the above exposition of a fake were it not for its educational value. This is only one of the many species that mercenary greed is perpetrating upon the public.

#### MILK.

An infant was left without a father and because of its mother's condition had to be reared by hand. Accordingly the best dairy was sought and engaged to furnish milk for the fatherless child. The best price was paid for the milk and the best milk promised for the price.

A sample of this milk was taken to the Laboratory of the State Board of Health for examination. A bacterial count was made.

\* \* \* \*

Just here it should be said that it is a very difficult thing to produce milk absolutely free from germs. The most cleanly process known to the most scientific worker will still produce milk containing a few. And milk can be ordinarily clean and yet contain a good many germs. In Rochester, N. Y., where a very pure product is placed on the market no fewer than 8,000 to 10,000 bacteria to the

c.c. are found. In Washington milk containing not more than 20,000 bacteria to the c.c. is classed as marketable milk. This is a reasonable degree of cleanliness and should be insisted upon. Milk containing more than that number should be ejected from the market. 20,000 to the c.c. is about 80,000 to the teaspoonful. That is about as many germs as the public ought to be called upon to swallow.

\* \* \* \*

Back to the milk in question. The sample was submitted and a bacterial count made. It was found to contain a hundred and seventy-nine million germs per c.c. Multiply that by four and you will see how many germs were being fed to the orphaned infant with every teaspoonful of milk. Now the State Board of Health thinks it ought to have power to correct the evil. The Governor thinks so. The Senate thinks so. Those who have children to rear by hand think so. Those who have sick children think so. Those who have well children and want to keep them well think so. In fact, those who care what people have to swallow think so. But the House of Representatives by killing the health bill says not. The House knows.

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**THE MOTHER**—It has been truly said, “The first being who rushes to the recollection of the soldier or a sailor, in his heart’s difficulty, is his mother. She clings to his memory and affection in the midst of all the forgetfulness and hardihood induced by a roving life. The last message he leaves is for her; his last whisper breathes her name. The mother, as she instils the lessons of piety and filial obligations in the heart of her infant son, should always feel that her labor is not in vain. She may drop into her grave, but she has left behind her an influence that will work for her. The bow may be broken, but the arrow is good and will do its office.

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**A SMILE**—Who can tell the value of a smile? It cost the giver nothing, but is beyond price to the erring and relenting, the sad and cheerless, the lone and forsaken. It disarms malice—subdues temper—turns hatred to love—revenge to kindness—and paves the darkest paths to gems of sunlight. A smile on the brow betrays a kind heart, a pleasant friend, an affectionate brother, a dutiful son, a happy husband. It adds a charm to beauty, it decorates the face of the deformed, and makes a lovely woman an angel in paradise.

## JUST AN ORDINARY TRAGEDY.

Did you ever read of the wonderful cures of certain patent medicines? How the doctors had given me up to die and how one bottle started me and how well I feel? Here is one just as related by Dr. S. A. Knopf:

"Now, in conclusion, let me tell you the sentiment of a minor soul on the subject of 'Quackery and Quacks and their Nefarious Influence on the Lives of Tuberculosis Patients.' The incident, which I am to relate, will show how unscrupulous these charlatans are in their method of procuring certificates of cure which they publish as baits to the unfortunate help-seeking sufferer. The fiendishness with which these men proceed in order to get the desired documents is something which can hardly be believed. The unfortunate patient referred to was a poor woman sent to me by the employer of her husband, who had only recently heard of the serious illness of his employee's wife. The patient was in the last stage of the disease, hardly able to walk. When I asked for the name of her former medical attendant, she confessed that she had been treated for a number of weeks by the Koch Lung Cure concern and now, her means being exhausted, she was made to understand that they would continue to treat her only on condition that she would give them a certified testimonial that she had been thoroughly cured of her disease, which had been pronounced an advanced and hopeless case of consumption by three prominent New York physicians. The poor sufferer had not derived any benefit whatever from the many months of costly treatment. With tears streaming down her pale and emaciated cheeks and with a voice enfeebled and already indicating the progress of the disease, but still ringing with indignation, she said to me: 'Poor as I am, and as much as I desired and needed treatment, I could not and would not be a partner to so fraudulent a procedure. I would rather die now than have it on my conscience to have sworn to such a statement.' She had told her husband of this infamous proposition the Koch concern had made to her. He in turn told his employer, and thus I had another glimpse of the dangerous and unscrupulous methods of consumption quacks. The poor woman has since passed on, and, let us hope, to the just reward for her noble qualities and for her high sense of duty toward her fellow-sufferers."—*Extract from paper read before the New Jersey Sanitary Association.*

SIMPLE SCIENCE TALKS (*Continued*).

You are promised more about parasites. This time it is to be a particular parasite—the hook-worm, or to say it more technically, *Anchyllostoma Americana*.

When a small boy, a family of so-called “dirt-eaters” lived near us. There were six children by a first marriage, all of which ate dirt; and two by a second which did not. I have seen one of the boys eat a quantity of clay that was drawn up when deepening an open well. I have seen another eating yellow dirt turned up by the plow. I have seen them eat burnt clay from the back of a clay chimney. In fact, they admitted the habit of dirt-eating—an admission that is rare. It was even said that their mother had been addicted to the same habit, and had knowingly permitted it among the children. But the two children of the step-mother did not, and they were always healthy.

The six older children were very pale and of a thick, swarthy complexion. One of the boys seemed worse than the others. He grew very slowly, and when twenty years old, he did not look more than fifteen. He never developed into manhood. His voice never changed and when he was thirty years old, he had no more beard than a baby. One of the girls seemed almost as bad. She attained a height of possibly a little over four feet, but she never developed into womanhood. Her figure was always that of a little child. The other boys seemed to improve. They grew to be men of average size and developed full beards, but they always kept that same anemic, swarthy complexion.

\* \* \* \* \*

I have since seen many such pale, swarthy, pot-bellied children. Some of them are to be found in nearly every community. They do not all eat dirt, but many of them do. And it is not eating dirt that is the cause of their condition—their condition is the cause of the dirt eating. It creates that morbid craving for various kinds of trash that a healthy appetite would abhor.

We know more about those cases now. They have hook-worms. Not all anemic children have hook-worms, but a large percent of them have. We all know about round worms, and about pin worms, and about tape worms. But many don't know about hook worms. They have not been known in this country till very recently.

\* \* \* \* \*

They are the smallest worms mentioned, the males being about one-third of an inch long, and the females about three-

fourths of an inch. In color they vary from a dirty white to a reddish brown, according to the amount of blood they may have ingested. They are called hook-worms from the fact that the head turns back forming with the body a sort of hook. They live in the alimentary canal of children.

There are other kinds of hook-worms that live in the alimentary canal of dogs, cows, wolves, etc. But only those of children concern us here.

There are also two kinds of hook-worms found in children, the European and the American, but the difference does not concern us here.

\* \* \* \*

They inhabit the upper portion of the small intestine, and it is believed act in four ways to sap the vitality of the victim:

1. They attach themselves to the mucous membrane and, like a leech, suck the patient's blood.
2. They do not remain permanently in the same place, but turn loose and move, and when they leave a point, they leave it bleeding.
3. As a result of these continued attacks the mucous membrane loses its power to function properly.
4. They set-free a toxin of some kind that affects the patient.

\* \* \* \*

The life history and mode of infection is very interesting. The hook-worms lay eggs in the alimentary canal, but here is a curious fact—the eggs do not hatch until hatched out in the stools.\* It takes them 24 to 72 hours to hatch after passing. In warm weather they hatch quicker than in cold.

When first hatched they are very small, but they at once begin to grow and soon cast the skin. Continuing to grow, they cast the skin a second time, but they are still too small to be seen with the naked eye, except when in clumps.

Now here comes in another curious thing. These tiny worms get on the feet of children, and bore into the skin, causing intense itching. That is what we call "ground-itch." They get into the lymphatic vessels and capillaries, and finally into the blood stream. Then they are carried through the heart and out to the lungs, through the pulmonary circulation. But being too large

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\*Dr. Arnold takes exception to this statement, though against so eminent authority as Dr. Stiles.

to pass through the pulmonary capillaries, they lodge and break through into the air cells and are coughed up and swallowed. In that way they reach the intestines, and attaching themselves to the intestinal walls are soon grown and depositing eggs to be carried off and in a similar manner infect other children or re-infect the same one. The infection may also be acquired by swallowing the worms at the right stage. Dirt eaters are likely to swallow them and in this way add to the number they already have.

\* \* \* \*

The diagnosis may be made from clinical symptoms with a reasonable degree of accuracy. But until the physician has had a good deal of experience with it, the microscope should always be resorted to. The eggs are then found in the stools and the diagnosis is certain. Physicians who do not use a microscope can send a small particle of suspected stools to the Laboratory of the State Board of Health,† and the examination will be made and results promptly reported.

\* \* \* \*

Treatment for hook-worms is very satisfactory. Thymol is given in large doses. It should always be administered by the family physician.

\* \* \* \*

Much more could be said about hook-worms, but this is enough to convey some idea of what they are. They prevail to a greater or less extent throughout Florida. Look out for children infected with them and help them. Just a hint to the parents who don't know the cause of their children being so "puny" is oftentimes sufficient to get the little ones reclaimed from that wretched condition and make useful men and women. H. B.

*(To be Continued.)*

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"God and the doctor we alike adore—  
In the face of danger—not before;  
Danger past, they are both requited,  
God forgotten and the doctor slighted."  
—*From the medicine chest of an old doctor.*

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†Physicians desiring to send specimens of this kind should apply to the State Board of Health for a mailing case in which to send it. Specimens improperly prepared should never be sent through the mails. It is a violation of the postal regulations, and can not be examined, for thereby the Board would become a party to the transaction.

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THE RECORD COMPANY,  
St. AUGUSTINE, FLA.

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*Symposium on*  
**YELLOW FEVER  
MANAGEMENT**

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...BY...

DR. JOSEPH Y. PORTER  
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PAPERS READ BEFORE

*The Florida Medical Association*  
AT ANNUAL MEETING HELD AT  
**GAINESVILLE, FLORIDA**  
APRIL 17-20, 1906



## MANAGEMENT OF EPIDEMICS.

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BY JOSEPH Y. PORTER, M. D.

*State Health Officer of Florida.*

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A disease may be said to be epidemic in a community when the number of cases of sickness and the number of deaths from any certain disorder equals or exceeds the total number of sickness and deaths from all other diseases within a particular period.

The management of contagious diseases, when prevailing in an epidemic form, implies the consideration of two propositions: The isolation of the individual patient, and the control and restraint of those persons who, living in close contact with the contagion, may, if unchecked in their movements, transmit the disease through their own bodies to other individuals or communities.

The liberty of the citizen has always been jealously considered an inherent right granted by the Constitution of the United States; to interfere with which is looked upon as a breach of solemn contract on the part of the Government, whether National, State or Municipal. Notwithstanding the fact, however, that the courts of the country have repeatedly asserted that the comfort or good of the few shall be subservient to the welfare of the many, yet whenever contagious disease appears in any community, which from its nature can become epidemic, if uncontrolled, health officials have had to contend with the same opposition to rules and regulations intended to suppress the disorder, notwithstanding previous experiences in the same community for like troubles have demonstrated the error of such conducts. The unanimous co-operation on the part of a whole community, where each individual citizen constitutes himself or herself an auxiliary power to carry out to the letter the wishes and purposes of the regularly constituted health authorities, is the essential feature of a successful management of

contagious diseases, whether or not happening in an epidemic manner.

Without this earnestness and personal determination to assist, by each one doing his part, an administration of sanitary matters during epidemic prevalence, is not only hampered and harrassed but is made exceedingly difficult to perfect to a satisfactory determination either at the point infected or for a protection of neighboring communities. It is unfortunately true that in the majority of instances where health officials have been required to interpose their authority to control and manage contagious diseases they have been looked upon as interlopers and principally desirous of asserting a czarism, which oversight of affairs, many in a community contend as unnecessary in interference with commerce or travel. If a moment's reflection would only be given to the subject, those who make claim of unreasonable restrictions or a curtailment of privileges on account of epidemic prevalence in their midst, would readily see the irrational attitude of such a contention, for no sensible person, and particularly a health officer, is eager to provoke antagonism or awake criticism needlessly. It would be reasonable to suppose, too, that whatever of opposition to a control of epidemic prevalence in a community where the privileges of movement of the people have to be interfered with by the exigencies of the occasion, would come from the ignorant and poorer class of citizenship, for usually ignorance and poverty go hand in hand. But such in my experience has not been the case. Most generally it has been some wealthy citizen who starts the cry of tyranny by the health authorities and because of a temporary interruption, perhaps, to his comfort or pleasure or even business, seeks to stimulate antagonism and provoke hostility to those who are trying the best in their power to stop the headway of disease.

Thus, a careful consideration of the subject of management of epidemic disease brings out the fact that the

successful solution of the problem, for it is always a problem which is to be carefully worked out, altogether depends upon the phase of public sentiment in the community which unfortunately may be afflicted. If tractable, confiding and trustful in those who have hitherto safely guided the sanitary ship, the administration is easy and the disease quickly brought under subjection to scientific measures and methods; but if the contrary spirit prevails then the task is exceedingly difficult and the expectant early termination of the trouble greatly delayed, if not altogether hindered. A management of contagious diseases which uncared for rapidly assume epidemic proportions, requires a keen discernment of conditions and a judgment practical in application of remedial measures, to avoid a hazarding of lives on the one hand and a needless crippling of business on the other. To lock a place up by quarantine restrictions without it is absolutely necessary to protect outside communities, is to impose hardships upon the people if in no other way than by casting a gloom and depression over a community such as always attaches to a besieged town. Therefore, as all contagious disorders are not alike in potency of contagion transmissibility, similar sanitary treatment for each is fortunately not called for or required and it is only when conditions assume such virulence, that prohibitory restrictive measures regarding personal or commercial intercourse have to be insisted upon and enforced as a public protective enactment.

Only in very exceptional instances are general restrictive measures of quarantine enforced against smallpox. The individual patient, or perhaps patients, are isolated and secluded from public intercourse, but travel or traffic with a place is not interfered with or interrupted, because of a few cases of smallpox in a community. An insistence is had for vaccination, and where this feature of management is thoroughly and successfully accomplished no further apprehension need be felt or entertained for the

future safety of either the community or neighboring settlements. If smallpox should assume a severity of form and spread before being discovered, so as to take on almost an epidemic status, even then, the main effort towards extermination should be vaccination, carefully and repeatedly done until every man, woman and child in the community is successfully protected against a seizure from smallpox. Thus will the disease be gotten rid of. Experience has taught that to adopt any other administrative course for suppressing smallpox is to employ expensive methods which will be slow in acquiring satisfactory results. It should be adjudged to be a crime against an intelligence, such as is supposed to be widely unfolded in this twentieth century, for an individual to contract smallpox, much less for a community to permit the loathsome disorder to gain such headway through non-recognition as to become epidemic in prevalence. Narrowed down to its simplest expression it will be seen that the management of smallpox consists in isolation of cases, vaccination of every one who possibly may have come in contact with the contagium vivum of the disease, and subsequently a destruction of such articles of clothing or bedding which cannot be sterilized by dry and moist heat and boiling water.

Diphtheria is next to smallpox the most active in transmission of the contagious diseases with which the health authorities have to deal. We formerly heard of epidemics of diphtheria, principally occurring in northern climes, but of late these disastrous outbreaks have been less in number so now, like smallpox, no longer is it recorded that towns are required to be quarantined against on account of either of these disorders. What vaccination has accomplished in suppressing and exterminating smallpox, has anti-diphtheretic serum—diphtheria anti-toxin—done for diphtheria. It has robbed the disease of its terror, and is not only curative but preventive of attack to those who have been innocently exposed.

Diphtheria could become epidemic especially among the young, if uncared for and neglected, but with modern scientific appliances to early discover the bacillus producing the illness, and a remedy constantly at hand to cut short the inroad of the malady as well as to prevent others from acquiring it, an epidemic or general prevalence of diphtheria is no longer possible among civilized people.

Another of the contagious disorders which leaves in its train so many ills and afflictions as sequences of an attack, is scarlet fever. Unfortunately, the germ of this disease has not yet been definitely decided upon by the bacteriologists, nor has a preventive anti-toxin or curative serum been discovered to ward off attacks or speedily arrest the disease in its invasion. Yet an extended spread of scarlet fever in a community is but seldom heard of in this day, and when cases are discovered the disease is generally throttled in its incipiency, by well directed sanitary and hygienic measures administered both by the attending physician as well as the municipal health authorities.

The especial contagious diseases of childhood, such as measles, whooping cough and chickenpox, require for successful management and to prevent their becoming epidemic in any community, a sensible care of intelligent mothers. A due observance of the Golden Rule: "Do unto others as you would that they do unto you"—by keeping children suffering from such disorders, which are rarely fatal, away from other children until the infective period has passed, will arrest the trouble in the first case, or in the first household attacked. Perhaps from the low mortality in these troubles, comes the seeming indifference on the part of some mothers towards the children of their neighbors, forgetful of the fact that any sickness means an expenditure to parents of nervous force, through worry, loss of sleep and anxiety, not to mention attendant expense of physician and medicines.

The infectious diseases rarely attain such magnitude

in number of cases as to threaten an epidemic spreading of the peculiar trouble, because in these days of laboratory scientific methods, nearly always accessible to every practitioner of medicine, whenever a subtle infection is suspected in a prevailing illness in any community, immediately the advice of the laboratory is sought, or the microscope consulted to determine the true character of the sickness. Fevers which continue over nine or ten days, unyielding to usual medication are looked upon with suspicion and call for prompt investigation in blood examination and other microscopic tests. The existence of typhoid having been determined, at once a searching inquiry is begun to discover the source of invasion. The potable water supply, milk vending, possible sewer contamination, and the transmission of the poison by flies all come under strict investigation, and the cause having been discovered, an end of the threatened prevalence is soon effected by adopting such measures of suppression and extermination as experience and well known practice has taught to be effective. Typhoid fever has been mentioned merely as an illustration of what the management should be for infectious disorders—such diseases as depend for their existence upon germ life introduced into the human system from without and not inherent in the human organization itself. As has been said, such sickness infrequently becomes epidemic in form, for the disturbing factor can be soon arrested and is not transmitted directly from person to person; therefore is not contagious.

Malaria and yellow fever are likewise of the infectious class which propagate not by contact but through an organism procured from but required to be developed out of the human body. These diseases therefore can only become epidemic in character or attain an extended prevalence by an intermediary source, which is now known to be mosquitoes of two species. It is not necessary to enter into a dissertation on the life cycle of the intermediary

host which is productive of either malaria or yellow fever, for the history of the discovery of the method of producing each of these infectious troubles is too well known and has been so much written about, that the experiments which led up to the final formulation of a law of transmission is now a subject as familiar to the lay world as to the medical profession. The feature of management which arouses the most interest at the present time, is not how are these diseases transmitted to the human family, for as has been said this fact is well known and accepted, but rather how to prevent this transmission, and going a step farther in the path of scientific progress, suppress for all time a recurrence of epidemics of these diseases.

It is generally conceded that a destruction of the Anopheles-mosquito will end malarial disorders. To effect this wholesale destruction is by no means an easy matter, nor one without monetary cost. While individual assistance is invaluable by destroying the breeding places of these insects in homes and on premises, yet an efficient ridding of the pest can only come from Governmental aid and efforts in systematic labor and well directed expenditure of funds. The Anopheles is a country mosquito, breeding in swamps, and in stagnant pools of water along road-ways which are not infrequent in sparsely settled communities not provided with graded thoroughfares. While we never hear of epidemics of malarial fever as such, yet in some portions of the country and at some periods of the year the number of cases of sickness from malarial fevers of one kind or another and also deaths from the same disorders, exceed the number of all other illnesses in particular neighborhoods, which is our definition given at the commencement of this article for epidemic prevalence of disease. To control malaria, measures must be taken to prevent being bitten by the infected female Anopheles. As these insects are more predatory in their habits at night, or in the late afternoon than at other hours of the day, if care is exercised to protect

against attacks of this class of mosquitoes by carefully screened bed-rooms and beds, and non-exposure of persons where these mosquitoes are abundant it will be found that chills and fever will be less frequent visitors in a household, and communities will have fewer sick people from this one ailment. Destroy the breeding places of mosquitoes, irrespective of the species, acting on the principle that if all kinds are not disease bearing that all are annoying, irritating and destructive of human comfort, and places and settlements once having the reputation of intense malarial toxæmia, will lose that stigma and become the favorite resort of pleasure seekers as well as those looking for comfort and restful existence in the summer season.

The "American Mosquito Extermination Society of New York" is doing a great and good work in educating the people by well-directed efforts in mosquito destruction, and by free distribution of literature in the shape of leaflets and tracts, and by lectures. Its membership is growing and I would advise all County Medical Societies of this State to become members of this organization and thus co-operators in the work of ridding the country of a disease which invalids so many of our people annually. The fee of membership is small and the society or individual member receives in valuable writings, many times over, the membership fee or the annual dues. Let me advise you to look more into this subject and give your moral help in the grand work which the Society has planned and which it proposes to perfect.

Yellow fever is an infectious disease, owing its propagation like malaria to the germination of an organism received from an infected human, but perfected and made capable of reproduction through an intermediary source. Like malaria, this intermediary has been found through well-tried experimentation to be the mosquito of the *Stegomyia* variety. It is a maxim of disease production, that where *Anopheles* and *Stegomyia* mosquitoes do not

exist, that it will be impossible for either malaria or yellow fever to be reproduced from a case of either disease accidentally introduced into a community, and it is on account of the ridding of the northern cities of *Stegomyia* mosquitoes that cases of yellow fever happening at one or another place in that section of the United States during the prevalence of the disease in our southern seaports, causes no uneasiness nor has it been known of late years that there has been any spread of yellow fever from such occasional introduction. The control of yellow fever must be mainly directed against the destruction of *Stegomyia* mosquitoes and epidemics of yellow fever are prevented only when the first infected individual is discovered in a community and proper measures of screening the patient and premises are early instituted. After there has been a general infection of the *Stegomyia*, it is not immediately possible to prevent a general spread, although the epidemic may be cut short if co-operative assistance on the part of the residents is given towards a general destruction of the insects by fumigation and screening; screening of homes first, and then fumigating them to kill those imprisoned mosquitoes which may have become infected elsewhere and nearby. As the cycle of development of the supposed parasite of yellow fever—reasoning from its analogy to malaria production—in the stomach of the *Stegomyia* mosquito and thus made capable of transmission through the salivary glandular system of the insect, is from ten to twelve days, the fact must not be forgotten nor lost sight of that the periods of outbreak are generally divided into epochs of fifteen days, and that until from seventeen to twenty-one days have elapsed from the appearance of the last series of cases it is scarcely safe to assert that the disease has been subdued, which is really equivalent to saying all of the infected mosquitoes have been destroyed.

In speaking of the management of epidemics of disease from those contagious disorders which unheeded in

course or uncontrolled, tend to great loss of life and interruption and disaster to the commercial world, I have incidentally alluded to the subject of prevention, not intending, however, to say more than to remind you of what you already know, and to refresh your memory on well-established facts. But as respects yellow fever and possible epidemics from this disease, due to accidental introduction or negligent management of quarantine restrictive measures, a word in conclusion of this article may not be considered tiresome listening to or useless mention.

It is not a matter of individual belief alone to say that yellow fever is never introduced into a community through clothing, bedding or freight of any or every description, for this disbelief in fomites of yellow fever is altogether entertained now by the scientific world, which conclusion has been reached after sufficient experimentation and extended investigations. It has been proven beyond all possible doubt that it is the infected mosquito in the first place which is to be feared and destroyed, and that in every instance when or where yellow fever has appeared in our southern cities and seaports, the introduction has been altogether due to an infected individual from elsewhere who, escaping detention at the port of arrival through probably a false claim of immunity to the disease, subsequently develops a mild attack of yellow fever, which undetected and unrecognized on account of the seeming benignness of the sickness, is a starting focus from mosquito infection and subsequent general distribution of the pestilence. The opinion has been advanced by some sanitists, and asserted as a fact with surprising earnestness and a seeming self conviction of the truth of the theory, that yellow fever infected mosquitoes have been introduced from distant points in hand baggage and thus have been the starting media of a general infection in a community. While the possibility of disease transmission in various ways cannot be disputed, denied or

disproved, yet I consider that in view of recent experiments in regard to imprisoning mosquitoes in bags and bundles without air or food, which resulted in the death of the insects within thirty hours, that any attempt to explain an introduction of yellow fever in a place on this hypothesis is "grasping at a shadow and losing sight of the substance," and that only visionary and purely theoretical sanitists will attempt any such fallacious reasoning. Do not misunderstand me as saying or intending to say that infected mosquitoes—yellow fever or malarial—cannot be brought from infected points in the empty holds of vessels, in their bilges, by larvæ, or in saloons and state-rooms, but that yellow fever infected mosquitoes which are timid and fragile, can be *prisoned alive* in the hand baggage of immune persons, whose immunity has been unquestionably proven against yellow fever, and then can be brought ashore to infect a non-immune population, I consider exceedingly ridiculous and farcical, and an impossibility.

Neither do I believe that yellow fever infected mosquitoes float ashore on the flotsam of ocean waves.

The United States Government has rules and regulations for the care and treatment of vessels from ports known or *suspected* of being infected with yellow fever, and these quarantine rules prescribe that such carriers shall be detained a sufficient length of time at a Quarantine Station,—Government or State—to permit a thorough fumigation of empty holds and living apartments of passengers and crew, besides a flushing of the bilges after mercurial treatment. All of which is done as a precautionary measure directed against possible infected mosquitoes remaining on the vessel after her departure from a probably yellow fever infected port. The vessel is then detained under observation of the Quarantine Officer of the port of arrival for five days after the finishing of the fumigation, as an additional measure of caution that those of the passengers who are non-immune and likewise

crew, who might have been bitten by a possibly infected yellow fever mosquito would have ample time to develop yellow fever, before being liberated from quarantine observations.

While maritime quarantine measures when firmly administered without regard to commercial influence are strong enough and amply protective against yellow fever introduction, yet the same cannot be said for quarantine restrictions of passengers by land or international in character. It is a difficult matter to guard every entrance point along the Mexican border and it was shown last summer that at least one person confessed after violating the law, that personal necessities required his passing several times to and from Mexico through Texas and that he effected the trip without detention. Therefore, unless it is known and proven that quarantine by sea has been loosely administered under commercial pressure, it is not sound reasoning to sail in the ether of speculative hypotheses to account for yellow fever introduction when no well-directed or authenticated charge can be brought against the maritime quarantine management. Although we may ridicule the old system of quarantine management, yet there was a semblance of sense in the procedure which held under detention and observation for forty days a vessel from a yellow fever port, because during that length of time any sick of the fever could recover or die, and mosquitoes which we now know to have been the transmitting cause could be destroyed by frequent airings of the hold, and their larvae killed by flushing the bilges. Within a period of forty days, mosquitoes could reasonably be expected to be destroyed; at least vessels so held were afterwards found to be safe for entry. With the advent of sulphur fumigation and mercurial washings, the period of detention was shortened and with safety, for chemicals did what time and nature's disinfectant—fresh air—was expected to do and speedier and in a more effective manner.

An infallible system of quarantine against yellow fever means an absolute prohibition of travel and commercial intercourse with those countries and places where yellow fever is known or is reasonably suspected to exist. Cut off intercourse, and safety from yellow fever is assured. But this is not possible even if desired, and I doubt if in this day would be sanctioned, for the Chinese policy of exclusion finds no favor in the eyes of intelligent nations. The necessities of trade demand certain conditions of intercourse with those countries where yellow fever yearly prevails and by reducing the chances of infection introduction to a minimum, the risk of bringing in yellow fever is so far lessened that it is better by far to permit under regulations and conditions a degree of intercourse, rather than to have a clandestine and illicit traffic spring up which would inevitably and certainly lead to epidemic disease introduction.

The commercial side of the question of travel and traffic intercourse with the countries to the south of us, where modern methods of yellow fever extermination have not as yet been placed in operation or have been seriously considered, is one which the Quarantine Officer or the Health Official cannot altogether ignore. The people will willingly submit to sanitary restrictions on their movements and their business interests when and where sound common sense and health necessities seemed linked in a demand for certain practical methods of health protection, but they will also strenuously oppose theoretical dogmas or problematical suppositions. Therefore whenever the people can be persuaded to devote their energies towards destroying the propagating force of yellow fever transmission; that is to say, will systematically root out and kill mosquitoes of yellow fever causation, then will quarantine restrictive measures cease to be so rigorous. As there is always an element of risk as regards yellow fever in dealing each summer season with South American countries and the Canal Zone, a vigilant watch should be

exercised in all southern cities having such trade relations, and every case of elevated temperature—not surgical—from the normal of health, should be watched under screen and carefully protected against mosquito biting. If this practice is followed, it will not be a difficult matter to early discover a case of yellow fever which may have accidentally been passed into a place, and the infection arrested in its incipiency. The doctrine of treating all fever cases during the summer season, and for that matter at all seasons,—for the fever may be malarial—under a mosquito net, well tucked in and under the mattress, cannot be too constantly kept before the memory and mental vision of the southern practitioners.

Prevention and management of yellow fever epidemics are therefore conducted under similar methods. The destruction of the infecting mosquito, the early discovery of the first case, and a thorough screening of patient and premises, with fumigation to destroy any mosquitoes which may have bitten the patient, before the insects shall have arrived at an infectible period for transmitting the disease. After there has been a general infection as shown by the spreading of the fever, whether slowly or rapidly, the safe and proper procedure to protect outside communities and the rest of the State, is to quarantine the city, town or settlement by a sanitary cordon, which guarding shall be done by the State militia acting under the specific directions and command of the State Health Authorities. For obvious reasons State troops for this purpose should be detailed from points in the State distant from the affected locality, and when stationed on the outskirts of the infected place, run no risk of contracting the disease; certainly no more than a Sheriff's posse would under similar conditions. This service in times of epidemic prevalence of disease is provided for by the State Statutes, which authorizes the governor to furnish State troops for quarantine purposes when requested by the State Health Officer to do so.

I am convinced from past experience in dealing with questions of this nature that when any disease assumes the proportions of an epidemic and it is clearly demonstrated by the number of cases occurring in different portions of a town that the infection or contagion has many different foci, it is the duty of the Health Authorities in charge of the situation to "shut up" the town by a sanitary cordon which shall be administered and controlled by an officer of the State militia acting under direct instructions from the State Health Authorities, and this cordon shall be continued as long as any doubt exists that the State Health Authorities have gotten the infection or contagion under control or until the disease is suppressed. I believe this procedure to be the only safe management to insure protection to outside communities and to inspire confidence from neighboring States, in the ability of the State Health Authorities to successfully control the situation. In advocating a restrictive quarantine against places infested by infectious or contagious diseases in an epidemic form, it is not intended that the management shall be construed to prohibit all classes of persons from leaving the infected locality. On the contrary, immune persons whose immunity to yellow fever—speaking now more particularly as regards this disease—is proven beyond a shadow of a doubt, should be allowed perfect freedom in their movements both inside of the infected territory and also in leaving the same State or in other States. So too, should those persons who purpose journeying from an infected district to non-infectible territory by uninterrupted travel and in mosquito screened conveyances, be permitted to do so at their pleasure. For this reason likewise, Detention Camps, where non-immune inhabitants can, under competent medical supervision, pass a required period of observation to determine the exemption of an infection in their own persons, are valuable adjuncts to a sensible and practical management. Depopulation of a

town will certainly lessen the number of cases likely to occur and when persons are passed through a Detention Camp to detect any who may have the disease latent in his system, is a speedy method to arrest a spread and suppress an epidemic. The management of a yellow fever epidemic within cordon lines should be especially directed towards suppressing the fever by energetically engaging in a persistent effort towards mosquito extermination, by repeated fumigation, and by the screening of both patients and houses. Thus will the material for a spread of the disease be lessened and a headway gained for a final "wiping out" of the infection.

Much more could be said on the management of epidemic disorders but I have rapidly sketched the methods which have been successful in dealing with the contagious disease occurring in this State, and although briefly, yet I think sufficiently clearly, to give a fair insight into the administration of these peculiar troubles, which at one time or another have given much uneasiness to the Health Authorities of Florida, and have called for quite a large expenditure of health funds to finally overcome and suppress.

## RATIONAL QUARANTINE.

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BY HIRAM BYRD, M. D.,  
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The summer and fall of 1905 was a very trying one for the Southern States. From the 24th of May, when the M. H. S. announced the existence of yellow fever in Belize, more or less anxiety was felt in sanitary circles in the South. But as the weeks rolled on and nothing more developed, it was, in a measure, lost sight of. On the 13th of July, two physicians in New Orleans reported to Dr. Kohnke, city health officer, the existence of two cases of suspicious fever. Dr. Kohnke at once informed President Souchon, of the State Board of Health. And though the action of these officials in not at once informing the public, in order to avert a wide-spread epidemic, has been severely and justly criticized, be it said to their credit that they stood face to face with a problem that had never before confronted an American sanitary officer. They had before them a suspicious fever. What was to be done? Should the public be informed? The general policy had been to admit the existence of yellow fever in a city only after it was absolutely demonstrated to be present. The last time yellow fever had visited that section of the country was in 1897. And did not the state health officer of Alabama openly admit that they had more than fifty cases in Montgomery that year before it was publicly acknowledged? And if there ever was a time when there was any excuse for concealing it, it was last year—the first time we have had yellow fever since the modus operandi of its transmission had been known; and since it was known that to control the disease it is only necessary to control the mosquitoes,—a thing that had

not been dreamed of in former epidemics; and since a thousand over-zealous enthusiasts had proclaimed to the world what an easy matter it is to get rid of mosquitoes, theoretically, however difficult it might be practically,—I can conceive of how honestly puzzled they might have been. With the precedent of former epidemics behind them, and the fear that they might be mistaken in the diagnosis, and the hope that they were, and the disaster to the commerce of the commercial metropolis of the South that such an announcement would bring, and lured on by the belief that they could eradicate it by the application of scientific methods based upon the now known law of its transmission through the mosquito—as Cuba was reputed to have done;—I say with all this there is no wonder that they fought as Hercules fought the giant. But they did not reckon with their host—did not know that every time he fell to the ground he rose with tenfold strength; and alas! we all know too well what the result was. Not only did the disease get anchorage in New Orleans, but that became a distributing center to subsequently infect other parishes, cities and States.

No sooner was yellow fever announced in New Orleans, on July 21st, than the neighboring states and cities instituted measures, each after its own method, calculated to prevent the introduction of the disease into their sacred precincts. I say “each after its own method” because that is the key word to the quarantine system that so handicapped travel and commerce throughout the South during the entire prevalence of yellow fever. Each after its own method, and every method different from every other method. Some prohibit the ingress of those who have been in infected territory for the past seven or ten days; some quarantine against cities where yellow fever is reported; some against whole States; some resort to inspection of travel; some to prohibition of travel; some to prohibition of travel and freight; some use law; some use shot guns; some make the state supreme, some

the county, some the city; everybody scared, and everybody thinking he has not done his duty till he has done something, regardless of how absurd that something may be. The physician and sanitary officer with his knowledge and experience, and with the laws to back him, sinks into insignificance and becomes the butt of the jest of ignorance. Pandemonium reigns supreme. Even a state health officer must ask protection of the police while he is diligently and intelligently performing his duty. A suspicious fever is reported at Castleberry. Dr. Sanders goes to see it—pronounces it yellow fever—is not allowed even the privileges of the hotel, but must accept the hospitalities of an unoccupied hut during his official stay in that town. Minnihett is pronounced yellow fever in Montgomery; Birmingham quarantines; the state health officer enjoins them not to; Birmingham laughs in his face; Georgia quarantines; Atlanta refuses to quarantine; the state board protests; the city board shows its teeth and claws; Memphis closes her doors to all the world; Brewton fumigates carbolic acid; Arkansas allows "Florida oranges to pass through that state in screened cars, subject to change without notice"; Apalachicola and Carabelle refuse to allow a cargo of brick and gasoline to land, though the vessel has U. S. pratique; the Governor is appealed to; a committee waits on him; in the meantime the vessel is held at bay. This is only a brief mention of the ridiculous and harassing side of quarantine as in vogue last year. Let us now inquire into the efficiency and economy of such a chaotic reign of rule and misrule. And, in the outset, permit me to lay down the dictum that the ideal quarantine system is that which gives the maximum protection with the minimum expense and inconvenience to travel and commerce. Measured by this standard, the quarantine in the South last year was far from perfect. In that mad rush to do something—right or wrong—no fewer than eight states and nearly every city, village and hamlet in the South, took some

sort of action, though the fever got anchorage in only three states. Memphis, for example, though several hundred miles from the nearest infected point, spent \$32,300, which, with the amount spent by the state at that place, aggregated some \$38,000. Savannah spent \$5,000. Augusta maintained quarantine more than eleven weeks at a cost of nearly \$3,000. Alabama's quarantine protection cost over \$40,000; to say nothing of what the several cities, towns and counties spent. Tennessee spent \$11,000, and not a single case of fever; and so on. All this indicates what wild confusion, what lack of system prevailed. Imagine a large city organizing its fire department upon the following plan: Each ward has a station equipped with engine, hose, ladder, and company of firemen. Whenever fire breaks out in any part of the city, every company stays at home to look after the interest of its own ward, regardless of all others. The company in whose ward the fire is must make the fight single-handed and alone, while all the other companies dance around their respective wards busy doing nothing, and shouting "Sic em" to the overworked firemen, instead of lending a helping hand. Who would fail to see the absurdity of such a plan of organization? And who is so obtuse as not to see that that is the precise plan upon which the quarantine of the South was conducted last year? Who will fail to see the absurdity of any system of quarantine that blockades commerce and travel 500 miles from the point of infection, and at the same time costs tens of thousands of dollars? Bearing in mind our dictum that the ideal quarantine system is that which gives the maximum protection with the minimum of expense and inconvenience to travel and commerce, let us suppose that by some accident, which is liable to happen any year in spite of the most painstaking effort to prevent it, yellow fever gets anchorage at some point in the United States. At once there looms up a dual proposition; the one side of which is to prevent the disease from spreading and infecting

other places, and the other is to eradicate it where it already exists; the one is effected by means of quarantine, the other by extermination of mosquitoes; the one vitally concerns every citizen in the yellow fever zone, the other concerns chiefly the citizens of the stricken city and state; the one is a national problem, the other a state or local one. To meet this dual problem, then, the federal government should take charge of the quarantine, while the state or local government bends its energies to root out the disease where it has a hold. Leaving now the eradication of the disease to the local authorities, let us see how the federal government can most efficiently and economically prevent its spread, and at the same time protect the travel and commerce of the southern half of the United States. It is not a complex problem—indeed it is simplicity itself—so simple that the wonder is that it has not been adopted long ago. It consists merely of putting a cordon around the infected territory and allowing no one to leave but by camp detention. What a harmonious arrangement it would be to have the federal government confine the disease to its original territory, while the state or local authorities work to effect its eradication. Where would be the need of any further quarantine throughout the country? Under the present system, trade and travel are handicapped over a million square miles; under the proposed system, it would not affect more than a single township. Is it a radical or dangerous doctrine, gentlemen, to say that if New Orleans, for example, had yellow fever, the federal government should put a cordon around the city, or the infected portion of it, and allow no one to leave but by camp detention; and it would not be necessary for Florida and Alabama and Mississippi and Texas and Arkansas to have any guards or train inspectors or quarantine restrictions of any kind or to do anything to protect themselves; and that people could go and come in all these states without getting health certificates or identification papers, just as they do when we

have no yellow fever in all the land? That is precisely what I am advocating. (And who would not hail with delight a radical departure from last year's proceedings?) And if some other place should become infected, then let the government cordon that in the same way.

This is not, gentlemen, an idealist's dream, but a plain, practical system—one that will stand the severest test; indeed, the more it is studied, the more rational does it appear. And whenever a satisfactory system is instituted, it will be along these lines and no other. I have said that it is practical. It is the system legalized and practiced in Florida, so far as one state alone can practice it. Last year, when yellow fever developed in Pensacola, a cordon was placed around the city for the protection of the rest of the state, and that was all the protection against Pensacola that the rest of the state got. The \$7,000 expended by the board for state line inspection was for protection against New Orleans and Mississippi, and not Pensacola, for people were not allowed to leave Pensacola except by camp detention; and Alabama and Georgia and the other states received the same protection against Pensacola, at our own hands, that we ourselves enjoyed. Now, if New Orleans and other infected places had been cordoned as Pensacola was, then all other quarantine restrictions all over the country could have been absolutely removed with perfect safety and travel and commerce could have been kept in stable equilibrium; and then the epidemic would have affected only the actually infected places. Why should the commerce of a thousand cities suffer when only a score are infected? We know that people who have been bitten by infected mosquitoes when allowed to go to non-infected places develop the disease and start up new epidemics—then why should we allow them out of the confines of infected territory? Here we can keep them under surveillance, and avoid the necessity of hunting them over a million square miles of territory and frequently losing all track of them. It is a

practice among sportsmen to trap quail and then set them free, to kill on the wing; are we fighting yellow fever for sport, that we set infected persons free to fire at on the wing? or, like an Easter egg hunt, send infected individuals out to hide the eggs and sanitary officers to hunt them?

But some one may ask why could not the states adopt a uniform system similar to the one outlined above and effect the same thing without transferring the quarantine restrictions against yellow fever to the federal government? Theoretically it is perfectly possible. Practically it is not. The states will not trust one another to that extent. And until the state laws are more respected it would not be safe for them to do so.

Just here I want to say that the state quarantine has a weak point: it is less effective than federal quarantine—less effective because state laws are less respected than federal laws; not that they should be, but they are. The reason for it is found in the laxity of the lower courts in enforcing the laws as compared with the United States courts. And as long as the lower courts foster lawlessness by protecting the lawless, so long will the lower laws be ineffective. And whatever may be said to the credit of democracy, it is a lamentable truth that democratic laws, because of their weakness, are poorly adapted to sanitation.

In conclusion, permit me to say of the Mallory bill that, while it is designed to prevent the introduction of yellow fever into the country, a consummation devoutly to be wished, it barely touches the other and equally important side of the question, namely, the management of it, once it is introduced. And I am fully aware that if we could prevent its introduction there would be no need of preparation for its management. If a locomotive engineer could be sure that his injector would not fail, there would be no need of having the boiler supplied with two injectors; or, reverting to our former figure, who would

not recognize the fallacy of a modern city having all roofs of noncombustible material, and all houses as nearly fire-proof as possible, and then abolishing its fire department? Yet, on the other hand, because the city has a good fire department is no reason still why houses should not be made as nearly fire-proof as possible, and likewise is it plausible to use every effort to prevent the introduction of yellow fever, regardless of how well prepared we might be for its management. The Mallory bill, then, is a short step in the right direction; and let us hope that it will not take another epidemic to show us that we need not only the most effective means of preventing its introduction, but likewise and no less urgent is the need of a better and more rational system of managing it, once it is introduced.

## DETENTION CAMPS IN EPIDEMICS OF YELLOW FEVER.

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tal Service.*

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The name "Detention Camp" is not one happily chosen, at it signifies something beyond mere detention, to the uninformed public, and even carries with it the idea of imprisonment. When coupled with this is the knowledge that a detention camp is securely fenced and surrounded by guards, the picture of a human stock-yard is complete. It seems to me that a better appellation could be selected, but the exact title which should be used is not entirely clear to the writer. The object of detention camps being to provide a means of egress from a community infected with yellow fever, the idea of confinement should be subordinated as much as possible to allay the apprehensions of persons who are already in a state of excitement and fear. It seems to me that the name "Observation Camp," "Camp of Release," or even "Outlet Camp," would be an improvement on the present term.

It should be our aim to develop the idea that quarantine restrictive measure are not restraints pure and simple, but methods of release from a dangerous situation.

### OBJECT.

As above stated, the objects of a detention camp are twofold: first, to provide a means of egress for non-immunes from a locality infected with yellow fever, and thus reduce the sources of continued propagation of the

disease, and, second, to hold such persons under observation for a limited period, with frequent daily inspections as to their physical condition, so as to prepare them to proceed to their destination in uninfected localities.

Under the present method of dealing with an infected community, the *cordon sanitaire* is applied by the lawful authorities to prevent the indiscriminate exodus of persons into surrounding localities and thus multiply the centers of infection. Through the co-operation of rail and water transporation companies, this is made entirely possible, even in a large city if it is involved, for their interests are in common with those of the uninfected portion of a state. When the local authorities in addition guard the highways to prevent egress through these avenues, the restriction is complete and the "detention" camp becomes the recognized and authoritative means of release from this situation. Therefore this camp is in every sense an outlet camp or a release camp.

#### LOCATION.

The necessity for such a camp having been determined by the authorities, the selection of a suitable location for pitching it is one of prime importance, being a part of the strategy of the campaign. Primarily it must be located on the main line of a railroad, at a suitable distance from the infected locality in order that there may be no unnecessary delays due to questions of transportation. If two distant communities are infected, a point midway between can be chosen to accommodate both communities.

The actual site for the camp involves more particular consideration for it is to be the temporary abiding place of men, women and children whose health and comfort are placed in the hands of the authorities for a period of five or six days, and those engaged in the management of it are held in continued confinement for a period which may extend over many weeks. It is trite to say that the site should be on high and dry ground and if possible a

sloping field should be selected to provide natural drainage in heavy rainfalls.

It will be desirable, in view of the present attitude of the public towards this disease, to select a location considerably distant from a settled community, in order to prevent factious opposition to its existence, and to reassure contiguous settlements of a desire to conserve their interests in common with those of the infected locality. It will be desirable, in fact essential, in locating this camp, to secure the personal co-operation of the local representative of the railroad line in that section. He is not only familiar with the topography of the country, but his assistance is necessary in the final arrangements for transportation facilities. In addition to this, the advice of one or more prominent persons in that section should be asked in order to secure their interest in the measure and forestall opposition. It will be very desirable to select government or railroad land for the location of the camp, preferably the former, in order to be free of embarrassing negotiations with private owners who might require exorbitant ground rental or present subsequent claims for damages to the value of the property.

It will add much to the comfort and pleasure of the refugees if there be trees conveniently located in the camp grounds, where shade and shelter can be had, as well as furnishing centers for social congregation in the daytime.

The proximity of a spring or springs of potable water is another important consideration in the selection of a site, though it is not a controlling factor, as means of obtaining water by artificial wells is now so readily accomplished. A spring may not always be constant or sufficient for the purpose of a considerable population in a large camp. A stream flowing in close proximity to the camp is also a desirable condition, if it may be had, for obvious reasons, but, everything considered, the driven or bored well within the camp enclosure is the preferable means

of meeting the question of water supply. It prevents constant egress from the camp to and from an outside source of supply and reduces the labor of transportation of water for drinking, cooking and laundry purposes.

The mosquito factor in the propagation of yellow fever requires some preliminary investigation of the existence of any varieties of that insect in or around a proposed site. If in a region quite remote from human habitation, it is scarcely probable that the Stegomyia will be found but the malarial mosquito may be, and if there are other varieties in abundance, the comfort of the campers as well as the staff and employees, may well be considered, if a choice of several locations is possible.

#### CONSTRUCTION AND EQUIPPAGE.

A detention camp cannot be prepared in a day. It is a portable city in miniature, providing for the necessities of several hundred people independently of outside assistance; therefore the authorities establishing it, either national or state, should have in reserve such an establishment packed for immediate shipment to the point required. The purchase and assemblage of tents, cots, mattresses, bed clothing, kitchen and dining room ware, is seldom possible under the conditions surrounding the establishment of a camp in a sparsely settled section, and time is always an important factor in getting these camps under way at the earliest possible date. The United States government has several such camp equipages already in depots in the South, for prompt transfer to infected localities, and this preliminary preparation is found to be of inestimable value to all concerned. The equipage of a camp should consist of certain necessary units, and multiples of these units will determine the size and capacity of the camp. The first requisite is "Wall tents," army pattern, 20x20 feet, with flies, holding at least six people; eight can be accommodated—four on each side. Rough wooden platform, six inches less in area than the

tent, should be constructed at the site to secure dry and cleanly floors for continued occupancy. The tent is pitched over them after they are built and laid in position.

The unit of equipage consists of 1 collapsible cot, 2 feet 6 inches by 6 feet 6 inches, with wire mattress, 1 cotton mattress, 2 sheets, 1 double blanket, 1 pillow and case for same, 1 plate, 1 cup, 1 saucer, 1 knife, 1 fork and 1 spoon. For general and dining room supply, there should be, in addition to the portable range, the actually necessary utensils and ware required properly to prepare and cook the ordinary subsistence store which would be used in food supplies for the camp. It will not be necessary to prepare a list of these, as details of this character would burden this paper.

The construction of the camp should be under the direct supervision of the officer who is to manage it, in order that he may properly execute his plans for carrying out the objects of the camp. The layout should be in the form of a hollow square, three sides of which are to be taken up with tents for the refugees while the fourth side is devoted to the executive building and other subsidiary structures required for the purpose. Within the parade ground at the center point, convenient for all, should be located a combined kitchen and dining room. All these permanent structures should be made of rough lumber properly roofed in, and sheathed with tarred building paper, and otherwise protected against inclement weather conditions. It is only proper that the executive staff who are required to live under these conditions for a prolonged period should be comfortably housed and that public property should be protected by such means during the existence of the camp.

Surrounding this quadrangle should be placed a barbed wire fence securely posted and strung with strands not less than ten inches apart to the height of eight feet. Outside of this, reached by a continuation of the same fence around them, may be located the necessary number

of latrines, divided between the sexes and races in the proper proportion. These latrines are built over a trench which can be reached from the outside by the guards for the purpose of daily disinfection and for inspection by the responsible officer. A double fence similarly arranged at a distance of ten feet to the outside of this may be provided as a patrol line for the guards and to add to the moral effect in the maintenance of order and prevention of escape.

The kitchen and dining room should be arranged with the kitchen in the middle to secure easy service to the two dining rooms on either end, which are to be devoted to the white and colored contingents among the refugees. If practicable, one of the artificial wells should be located close to the kitchen, for obvious reasons. Another necessary building will be a storeroom, either for supplies or the trunks and other baggage of refugees. The car in which the camp equipage has been transported can be used for this purpose after it has been side-tracked and placed in a convenient position near the passenger landing.

The labor necessary for the construction of a camp should be obtained in the immediate vicinity of its location, if possible, in order that the inhabitants of the locality may have material interest in its establishment, and this will have an effect of allaying opposition to its location and maintenance in the vicinity.

#### MANAGEMENT.

The officer commanding the camp should be a medical man having executive ability in addition to his professional qualification. These latter should include some actual knowledge of yellow fever derived from experience. If this is not obtainable, a medical assistant should have that qualification to assist him in matters of expert diagnosis. A hospital steward should be appointed to act as executive officer with special supervision over the pub-

lic property, accounts, care and preservation of articles and supplies, and all matters relating to the dietary of the camp.

Ten guards will be necessary for any camp, however large or small, including a captain of the guard, whose duties are to oversee this special work of policing the camp. If possible guards shall be selected from some organized military body, either national or state, as nothing tends more to the preservation of discipline and orderly conduct of such a camp than the presence of authoritative officials in uniform. If this is not feasible, these employees should be selected from immunes, and the captain of guards be a man of mature years having some knowledge or experience in military matters to enable him to carry on the duties devolving on this branch of camp management.

The medical officer in command should be left free of the oversight of details, in order that he may give general attention to the many questions constantly arising among the campers as to their rights and privileges. Everybody calls upon this official for information and advice of every conceivable sort. The assistant medical officer should be charged with the inspection of sanitary conditions of camp proper, the kitchen and surroundings, the latrines, the water supply and the daily sick call and the treatment of those who require medical attention. The duties of the hospital steward are already stated. Additional employees for kitchen and dining room work will complete the roster of necessary attendants. If the camp be large in capacity, a chambermaid should be included to care for needs of women with infants in arms and small children at table, as it will facilitate serving of meals; and in case of sickness such a person can be of great assistance in the womens' section of the camp.

It is hardly necessary to say that regularity of hours in meal service and in the muster and relief of night and

day guards is absolutely essential to the preservation of order and economy of time.

There will be a large quantity of trunks and other baggage brought by the campers which will tax the capacity of the laboring force to house and protect same properly from weather as well as to prevent depredations. A building especially devoted to this purpose under charge of a custodian will be found necessary, as the bringing of trunks into the grounds and tents is impracticable. There will be constant opportunities on the part of the campers to get at their trunks "just a minute" and it will be found necessary to have some stated hour for this inevitable function, to save time and labor of the guard in charge. A telegraph operator is almost a necessity, and arrangements for this service should be made in advance with the railroad company. Preferably a telephone with long distance connection should be established, and that is quite feasible at the present time.

#### REGULATION OF REFUGEES.

It is a preliminary requirement that those coming to the camp should at the hour of their departure from the infected locality be free of all evidences of illness from the existing disease, as otherwise the camp would become infected and subject to the same quarantine as that of the infected locality itself. Consequently a representative of the constituted health authorities should, at the point of departure, take the temperature of each person just prior to entraining, and register the same on some form of ticket or card of identification, which is to be issued by his authority and signed by him and the holder. It will rarely be found that these applicants have a normal temperature, as most of them are laboring under excitement, mental and physical, and perhaps others have slight gastro-intestinal disturbances or similar conditions which give rise to febrile action. It would be quite safe to pass applicants with a temperature rising above 99 in the

morning, but temperatures reaching 100 should be considered as a cause for rejection until twenty-four hours had elapsed.

Upon the arrival of refugees at the camp, they should be again examined and identified, and if no suspicious condition has developed en route, each individual should be entered by name in a register kept for the purpose of recording in serial number the names and addresses of all persons entering the camp, with such other facts as relate to personnel. Each contingent of arrivals should thus be examined, and after these preliminaries have been carried out, the assignments to tents should be made to accommodate the campers in the matter of combining families or friends as far as possible. Unmarried women should be given the protection of married persons of their sex. Separation of the races is, of course, understood in all details of management. Refugees can be discharged daily in order of their coming, so that there will be a continual inlet and outlet through the life of the camp. It will not be necessary to receive them in groups of five or six days each, as was thought necessary when the idea of infectious fomites held sway as the method of propagation of the disease and disinfection of person and baggage was a prerequisite to entrance into a camp.

#### PERIOD OF DETENTION.

The ordinary time of detention of cases at the camp is the same as that required by the national government in maritime quarantine practice, namely, five days from the infected locality. This gives ample time for the development of all possible cases which may be in the incubative period and the refugees can depart on the train departing at the same hour as that which brought them to the camp. In some instances, due to excessive caution or exaggerated anxiety, longer periods may be required by certain localities, and those destined thereto must submit to these exactions and remain the required period. The temperature of the departing refugees should be taken just

before entraining, and a card of identification, with certificate of detention for the number of days each has passed in camp, with a statement of their freedom from the prevailing disease under quarantine, should be furnished as a pass to be honored by the health authorities of adjoining communities in the states. Absolute rectitude should be observed in the issuance of these important certificates as the officer in command will often be beseeched to waive the full period of detention upon one pretext or another. The reputation of the camp and the safety of the people are dependent on the integrity of the commanding officer in this matter.

#### DAILY ROUTINE.

The headquarters building should be the source of regular announcements of the time of day, either by bugle or the ringing of a ship's bell. The railroad company can usually furnish an engine bell for this purpose, if a bugler is not to be had. The duties of the day should begin at 6:00 a. m., and close at 6:00 p. m., between which hours the day and night guards are on duty, respectively. They should be assembled in front of headquarters by the captain of the guard and duly relieved and placed on duty in military manner. Guards should be posted at the four corners and patrol back and forth during their hours of duty, and at night each guard should be furnished with a lantern to aid him in his work.

The hours for meals should be so arranged as to provide for feeding the guards before their hours of duty and those who are relieved, after their relief. Meals for the campers may be placed at 7, 12 and 5.

The executive staff at headquarters can arrange an officer's mess with meal hours after the campers have been served. At this mess, it will be found desirable to invite any person of prominence among the refugees as an occasional guest, particularly if there happens to be a phy-

sician among the number, as happened in my experience on two occasions.

Aside from irregular and general survey of the camp by the commanding officer, there should be a regular sanitary inspection each day by his assistant, to observe conditions of tents and their surroundings, and such places where garbage and other filth is of necessity to be found.

At 9 and 3 daily during pleasant weather, the entire contingent of refugees should assemble at a convenient place, under shade if possible, and remain seated for medical inspection and the taking of temperatures. This is the most important formality of the day and should be announced by special bugle call or selected signal of bell. This method of congregation of refugees is preferable to that of conducting the same work with the refugees sitting at the door of their tents, and a dozen or more thermometers can thus be employed simultaneously and the medical officer thus be relieved of continual walking backward and forth, adjusting thermometers and seeing that they are properly kept in the mouth to secure accurate registry. All records of temperatures should be entered in a book kept for the purpose, each person being accorded necessary space to cover the number of days of detention. The absence of any person can thus be immediately noted and any announcements for the information of the refugees be given at the semi-daily assemblage.

All refugees should be required to remain seated until this important work has been completed and the officer has made his report to the commanding officer, which will be announced by a prearranged signal to indicate the termination of this routine.

#### DIVERSIONS.

It will be found that, among a hundred or more people, comprising "all sorts and conditions of men," there will be many who will almost beg for something to do to relieve the tedium of camp life within an inclosed fence. This

condition can be met by originating gangs of landscape gardeners and other artisans, clearing up the ground of underbrush, stumps and weeds, laying out paths, and in other innumerable ways helping in the daily routine work of the camp. It will be desirable to allow amateur entertainments in the evening by volunteer talent, and the burning of refuse and other material gathered during the day in bonfires at night will add a touch of cheerfulness to otherwise sombre surroundings. These relaxations it will be found are not only diversions, but necessities. Wood for use of the camp can readily be obtained by volunteer gangs of choppers and if water is to be brought this same agency can be thus employed. It is greatly desirable, from a patriotic standpoint and for its moral effect, to erect a flag pole in front of executive building, from which the national ensign can fly in sight of all from sunrise to sunset, and be lowered by appropriate ceremony, if a bugler is part of the force.

#### INFECTION OF CAMP.

In order to prepare for possible appearance of disease among the refugees, a hospital tent should be located outside the inclosure, convenient to headquarters building, with all necessary appliances and remedies for treating yellow fever. I will not enumerate these in a paper devoted to a collateral subject. Under existing conditions the cots and the hospital tents should be provided with mosquito bars and the same precaution taken as in a regular hospital or at a private dwelling. Persons occupying the same tent should be put under special observation for a sufficient length of time to insure safety to them and others. It is doubtful under these conditions if there will be any spread. The utmost frankness and publicity should be given to all these measures, so that refugees may know that no deception is being practiced under any circumstances. These camps can thus become valuable educational agencies in the dissemination of knowledge

and allaying groundless fears of its spread by fomites or ordinary contract.

#### GENERAL CONSIDERATIONS.

It lies within the power of the commanding officer to make this camp a pleasant memory or a disagreeable period of daily troubles. He can so administer it, without fear or favor, that the refugees will on the expiration of their several periods of detention regret their day of departure, and they will regard it as a pleasant incident in times of pestilence and death.



## WHAT SERVICES CAN THE LABORATORY RENDER IN THE DIAGNOSIS OF FEVER?

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The discovery of the mosquito law of transmission of yellow fever gave great hopes that we were on the eve of isolation and identifying the micro-organism that cause the disease. Unfortunately our hopes have not yet been realized. The investigation carried on last summer in New Orleans and other places where yellow fever was prevalent, in spite of improved technique and concentrated and systematic efforts, did not arrive to any practical results.

The knowledge of the fact that no micro-organism has been so far identified as bearing any causal relation to yellow fever makes many laymen, and even some members of the medical profession, to ask themselves in which way can laboratory methods be of any service in the diagnosis of this disease. During the last epidemic at Pensacola, an opportunity was offered to determine in a practical manner the real services that the intelligent interpretation of laboratory investigations can render in the epidemic of yellow fever in Florida.

It is at the beginning of an epidemic when accuracy of diagnosis is especially demanded; a mistake one way or the other may have disastrous consequences and it is

therefore safe for attending physicians and health authorities to take advantage of all possible means of safeguarding their responsibility.

Of all the diseases prevalent in Florida, malaria is perhaps the one that more frequently gives rise to doubts in time of suspected invasion of yellow fever and it is the differential diagnosis between both diseases that demands the greatest responsibility on the part of the physician. Everybody who has had any experience with these diseases will acknowledge that in many cases it is very difficult to distinguish clinically one disease from the other. The classical descriptions of text-books and monograph does not always correspond with the abnormal types often met in different localities. A virulent type of yellow fever with hyperpyrexia, hematuria, extreme icterus is very often difficult to separate from a case of pernicious malarial fever, and mild attacks of either disease look sometimes very much alike. It is in these cases where the microscopical examination of the blood before quinine has been administered to the patient can settle the diagnosis. I cannot impress strongly enough the necessity of withholding the quinine until the specimen of blood has been collected. The indiscriminate use of quinine before the blood has been collected for microscopical examination is most unadvisable, especially in times when yellow fever may invade the locality. During the last epidemic at Pensacola, the majority of the physicians were most careful in this particular, and the clearing of many a doubtful diagnosis by microscopical methods was due to this fact. In many cases malarial parasites can be found in the blood, even after the administration of large doses of quinine, and for this reason the microscopical examination should never be omitted in doubtful cases. The physician, however, must bear in mind that after the administration of quinine a microscopically negative result has very little value. It has occurred to many to inquire whether it is possible for a person to be infected with both yellow fever and malaria and the same

time as in this case the microscopical examination of the blood for malarial parasites in suspected cases will necessarily lose a good deal of its value. In answer to this question I will state that mixed infections with malaria and yellow fever are possible, but not probable. Of course, a patient suffering from chronic malaria may contract yellow fever, as he may contract typhoid fever or pneumonia, but the antecedents of the patient will give warning to the physician and the variety of parasites present in the blood will indicate that the malarial infection is of some standing. Of all the patients examined during the epidemic at Pensacola, only one showed malarial parasites, crescents and ovals, while suffering from an attack of yellow fever. This case is very interesting and as the victim was a prominent foreigner of the consular service of his country, I will give a few details of the clinical history.

The patient had fever for four weeks preceding the suspicious attack that compelled him on October 4th to go to bed. On October 5th, patient had all the characteristic symptoms of yellow fever. The urine showed a large amount of albumen. The hemoglobin count was 100 per cent. The Diazo reaction was absent from the urine. A careful and painstaking microscopical examination of the blood revealed the presence of a few malarial parasites, crescent and oval, but no small rings. Patient died in uremic coma on October 10th. This is the only instance, out of 150 patients examined in Pensacola, where malarial parasites were found in the blood of a patient affected with typical yellow fever. The clinical history makes almost sure that the patient was suffering from an attack of estivo autumnal fever when yellow fever was contracted.

In the above clinical history mention is made among the important data for the diagnosis of the fact that hemoglobin estimate was 100 per cent and of the absence of the Diazo-reaction in the urine. I desire to explain the relative importance of this data in the diagnosis of yel-

low fever. In regard to the hemoglobin estimate in yellow fever many contradictory statements have been made, some stating that it is generally low. On the basis of my observations in Pensacola it can be asserted that the amount of hemoglobin is generally very high during the first days of the disease. Of all the cases of yellow fever investigated at Pensacola, in only two per cent. was the hemoglobin below 100 per cent. In one of these cases it was 90 per cent., and in another it was 40 per cent. This patient had just recovered from a prolonged attack of typhoid fever and was in a complete state of chletanemia when she contracted yellow fever. In one case the hemoglobin estimate was 120 per cent. This was in a patient of Greek nationality who had a hemorrhagic type of the disease.

Of all the cases of malaria investigated, 80 per cent. showed a hemoglobin estimate of 70 per cent. or below, 20 per cent. between 70 and 100 per cent. These cases of malaria with high hemoglobin were incipient cases, and from my experience I feel confident that one or two days later the amount of hemoglobin would have been much less.

Following the suggestion of Dr. Juan Guiteras, a careful study was made at Pensacola as to the presence or absence of Ehrlich's reaction in the urine of yellow fever patients. This reaction as it is well known has been given much importance in the diagnosis of typhoid fever, but so far as I know has not been used in the differential diagnosis of yellow fever. Dr. Guiteras, however, asserts that he has not been able to demonstrate this reaction in any case of yellow fever, and that therefore its presence in a suspicious case is a matter of great importance. The investigation of this question made at Pensacola can in a general way be said to confirm this assertion, as of 150 samples of urine of suspicious cases examined during the epidemic in only four specimens was the Ehrlich's Diazo-reaction present. One of these samples came from a patient considered suspicious, but in whose blood the micro-

scopical examination revealed the presence of a great number of malarial parasites. Of the other three cases one was undoubtedly dengue, as the patient showed an abundant rash on the fourth day of illness and never showed albumen in the urine. Of all the cases studied, therefore, in only two of yellow fever could the reaction be demonstrated. It can accordingly be stated that the presence of this reaction in a suspicious case militates against the diagnosis of yellow fever. According to Dr. Guiteras the reaction is often present in dengue fever, but as cases of this disease were very scarce during my stay at Pensacola no investigation was made of the question.

As coming under laboratory methods, I may venture a few remarks on the presence of albumen in the urine of yellow fever patients. Whether or not albumen is present in all cases of yellow fever has been a subject of much controversy. My experience has been that though in a few mild cases albumen is perhaps never present in the urine, with very sensitive reagents, careful technique, and systematic examination of several samples taken at repeated intervals during the day, the number of the non-albuminous cases will diminish greatly. In several cases the albumen may not show until very late in the disease. I have in my notes the record of a case, colored man, who, in spite of an otherwise typical attack of yellow fever did not show albumen in the urine until after the fifteenth day of the disease, when the patient was pyretic and nearly convalescent.

In conclusion I may be permitted to state that notwithstanding our efforts there are some cases of yellow fever that cannot be positively diagnosed, cases that are so mild that often not even the suspicions of the patient or his attending physician are aroused. These cases constitute the greatest difficulty in fighting the disease as in spite of their mildness they furnish material for the infection of the stegomyia. By calling in our aid laboratory methods we may perhaps diagnose some of these cases and therefore diminish the source of danger.





